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ABSTRACT

Based on a review of relevant literature, this report summarizes the state of the art and presents annotated references on the uses of media in career education. The uses of both print and non-print materials are organized according to their instructional setting: classroom, small group, career center, independent study, workshop, and training institute. The materials presented indicate that career education has permeated many aspects of the school curriculum, but that instructional units often are not related clearly to stated educational objectives. The report covers both materials for student use and materials for teacher use. (EMH)

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The Use of Media in Career Education

Anita M. Mitchell

September 1976

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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INTRODUCTION

For purposes of this paper, the term "media" refers to either of the following definitions of the word "medium," as found in Webster's New Twentieth Century Dictionary, Second Edition: 1) An intervening thing through which a force acts or an effect is produced; 2) Any means, agency, or instrumentality.

The career education movement has spread to school districts in every state, and is affecting institutions of higher education as well. For a while, some educators viewed the movement as another educational bandwagon, and because of precarious rides on previous bandwagons, were reluctant to participate. Shadows of less than rewarding attempts to implement "classrooms without walls," "no bells shall ring," "team teaching," "continuous progress," and many other promising trends dogged cautious administrators and teachers, despite the fact that each of these trends had produced some successful disciples. The groundswells had tailed off, and there was increasing recognition that no new program or process was a universal panacea. And so some thought that career education would go away, and that their current programs would be less disrupted if they waited for its demise.

What these reluctant educators failed to realize was that career education was, in the mind of the general public, an answer to a faltering economy with its escalating unemployment and underemployment rates. The public didn't really understand some of the earlier educational movements. As a matter of fact, some of them sounded suspiciously like movements away from the world of reality. But career education was something every mother and dad and every businessman could understand. It held promise for increasing youth employability; decreasing the vandalism, drug abuse, and general irresponsibility with which some characterized unemployed youth; and ultimately strengthening the economy through the productive activity of school graduates.

This general belief in career education has not changed, and it is not likely to change soon. This author hopes it will not change. Rather than being another "add-on," another burden to the overworked teacher, another page in the voluminous curriculum, career education can be an organizing factor that provides a linkage system for learning in the various subject areas. It can bring sense and relevance to many important subjects which, often taught out of context of the learner's world, have lost the student's interest. It can serve as a motivator that, rather than adding to the teacher's load, involves the student in the learning, as she/he internalizes new self-concepts.

Career education is not vocational education. It involves knowledge of self and of the worlds of work, education, and leisure, and utilization of this knowledge in planful decision making.

About This Paper

This paper, then, is one response to and resource for a heightened interest in career/occupational education. It is offered as an aid to educators who are adopting wide varieties of validated and non-validated education programs and media.

This paper is confined to the *uses* of media; it does not address identification or evaluation of existing media; it does not address models, programs, strategies, or teaching techniques. A later section does discuss adequate, current, annotated, and variously categorized compendiums of both commercial and noncommercial media, to which the reader interested in locating appropriate materials is referred.

The paper is organized around *uses*, rather than around the various *types* of media, as many media developers produce packages containing both print and nonprint materials, and it is not practical to treat use of each part of a package separately. However, it may be of interest to present the types of media included in this survey.

PRINT

For student use:

books
- textbooks
- reference books
- career fiction

booklets/leaflets/pamphlets
programmed instructional materials
learning activity packages
occupational briefs/abstracts/job analyses
logs/notebooks/workbooks
bibliographies
handbooks/guides
magazines
scripts
songs/poems
reports
forms

For staff use:

curriculum guides
instructional units
manuals
occupational courses of study
occupational resource guides
bibliographies
reviews
training modules
models of career development
objectives banks
leadership guides

Measurement instruments:

questionnaires/surveys
tests
demonstration tasks
criterion measures

NONPRINT

Audiovisual:

films
filmstrips
film loops
microfiche
slides
videotape
audio tapes
cassettes
records
radio and TV
transparencies
models/mock-ups
displays/exhibits
pictures/posters/murals/art
graphs/charts
bulletin boards
realia

Manipulative:

kits
puzzles
puppets/dolls/figures
tools
blocks
games
simulations

Interactive:

computer-assisted systems

Users of the career education media surveyed include students, teachers, counselors, administrators, parents, employment counselors, teacher/counselor/administrator educators, and staff development specialists. In many cases a single product includes materials for use with more than one of these groups.

References consulted in this survey include those that emerged from an Educational Resources Information Center (ERIC) search using appropriate descriptors, augmented by additional published and nonpublished documents available to the author. Although the paper could have been organized around any of several classification systems, only one clearly emerged from the document review. The uses of media organized themselves around setting: classroom, small group, career center, independent study, workshops, and training institutions. Organizing uses around career development model components or around categories of objectives would have been preferred, but for many of the references, models either were not used or were not identified, and for many, specific objectives were not stated. Uses might also have been organized around age or grade levels, but it was soon apparent that distinction between levels disappeared in actual use.

Although organized around setting, uses are divided into two major categories: Direct and Indirect Intervention Media. Direct refers to materials and technological agents for use by and/or with students. Indirect refers to media designed for staff training (both preservice and inservice) and staff resources. Workshop materials and bibliographies of career education literature and of career education media fall in this latter category.

Specific media products illustrate such uses. However, no attempt has been made to locate the best or most effective products. Products, both commercial and noncommercial, were chosen only on the basis of their appropriateness for illustrating use. Evaluations of these products are available from other sources, some of which appear in the annotated references in this document.

Background

Publishers' warehouses are bulging with new media products awaiting buyers. These new products often are bought with little regard for the fit between desired student outcomes and the ability of the media to contribute to the attainment of those outcomes. We frequently plug them into the wrong outlet and wonder why they don't work.

Educational markets are too small to support all these products. The average rate of annual growth of media other than texts has been increasing since 1968, while textbook sales have been leveling off. This represents a basic market change. Students now are the real customers. More and more, educational materials must win their approval before they are accepted. Most publishers responding to the need for production of non-text materials have lacked imagination in putting together new media; they have used traditional approaches and attitudes, and have been forced into a defensive position as new ideas on how things should be done have emerged to replace old approaches.

Some massive media programs geared to a series of grade levels don't succeed because they are too lock-step, while teachers are moving in the direction of close individual relationships with students--just the opposite thrust. Successful publishers work to limited, specific objectives, producing individual items, or at most, a series of items. Locally produced materials also tend to address specific objectives. Such educational media have had a profound effect on how educational objectives are stated.

Accountability--relating effectiveness to objectives--weighs heavily on media. Media with mechanical, electronic, or photochemical components frequently require software (educational materials) that must be preplanned and stored for use when required. The increasing use of predesigned instructional media creates a need to specify learning experiences that will produce a desired outcome. Educational mediating systems that permit control of instructional stimuli must prove effective and efficient if they are to replace traditional systems. The predesigned instructional condition with specified objectives differs greatly from the extemporaneous instructional condition where the human medium, the teacher or counselor, is allowed extemporaneous objectives. The specification of attainable/observable/measurable objectives helps define the educational media needed to attain them. If the media and the objectives don't mesh, one or both must be changed.

Unfortunately, many educators adopt materials and let the materials define their objectives, instead of adopting objectives, and identifying and using materials designed for those objectives. The desired relationship between the medium and the objectives is one of congruence; the medium should provide the best possible fit.

Media make possible the presentation of refined materials to unlimited numbers of learners. We need to clarify the teacher/counselor's role with media-based instructional systems. Many issues are related to the when and the how of using media. Producers need to pursue more adequate field testing of their products in order to give teachers more help in identifying appropriate times and conditions for employing programmed and/or directed discovery techniques. Stimuli for maintaining interest and for providing for transfer, as well as procedures for feedback, review, and repetition, are needed.

The issue of the use of single or multiple modalities also needs to be considered. Whereas there is increasing evidence that learners generally can utilize information from only one sense modality at a time, and that bombardment of sense modalities is contraindicated, producers (particularly noncommercial producers) tend to suggest multiple mode presentations.

Many feel that when the stimuli of instruction are committed to technological media such as film, cassettes, and videotapes, the means of instruction become fixed. What is needed is a new technology for training the staff to remain the primary mediating system, and to use media to interface with their own presenting style. To be effective, media must be an integral part of instruction.

In career education, multimedia products are providing scientific and marketing breakthroughs, particularly in consumer information systems. It

is the prerogative and the responsibility of educators to define the content and thrust of such systems. If we abdicate this right and responsibility, it will be assumed by producers of commercial media. Apparently many educators feel that the only way to obtain media that meet their idiosyncratic needs is to produce them themselves, because annual updates of available media continue to reflect large numbers of noncommercially produced materials, may of them appearing to overlap in content and objectives.

USES OF MEDIA FOR DIRECT INTERVENTIONS WITH STUDENTS

Use by Students in Classrooms

The November 1974 publication of the Office of Career Education, U.S. Office of Education, *Career Education: The State of the Scene*, contains the following quote:

> *If the publishing plans of major commercial publishers are an indication of what is to come, then there is a trend toward more materials which blend career education concepts and subject matter concepts.*

That prediction has come true. Media intended for infusion into the regular academic curriculum are plentiful. Various media, often in combination, are employed in various uses from independent study to directed individual or group learning. In many cases, the media are keyed to major textbook units, and accompanying teacher guides present suggestions for using the media to support the unit(s). For example, the Comprehensive Career Education Model funded by the National Institute of Education includes more than 140 instructional guidance units developed for classroom use in grades K-12. Both cluster units and infusion units are included in the model (Center for Vocational Education).

Rayville, Louisiana, produced Job Cluster Kits containing audiovisual and printed materials for each job cluster. Rather than creating all new materials, relevant and available existing materials were included. Materials were boxed for scheduled routing to junior high social studies teachers, to interface with their classroom units. Listings of local community resources also were included. Teachers select items from within each cluster as they bear on the instructional unit (*Administrative Handbook*).

The J.C. Penney materials on *Career Decisions: Finding, Getting and Keeping a Job* are designed for use in work experience, psychology, marketing, family living, or social studies classes. Included are transparencies, filmstrips, a record, worksheets, and a teacher's manual which promotes teacher involvement in career decision programs and offers suggestions for curriculum incorporation and for obtaining additional information.

Classroom games at various grade levels not only increase students' career awareness, but also give them an opportunity to experience some of the concepts employed. Among those developed by ABT Associates are a 6th grade unit, *Economy*, and a high school unit, *Educational Planning*. The economy game has students take the parts of machine shop owners, manufacturers of consumer goods, heads of families, and bankers. The educational planning system demonstrates the major issues of educational planning and develops an awareness of alternative plans, costs, and benefits.

Learning resource kits presenting teaching objectives, discussion questions, synopses of presentations, and suggestions for incorporating the

materials into the regular academic curriculum are illustrated by the kit *Working*, produced by BFA Educational Media. The kit contains four filmstrips, four cassettes, a set of 20 activity masters, and a teacher's guide. It is addressed to students in grades 4 through 6.

Media used to help students develop awareness of self and to develop interrelationship skills are increasing in number and sophistication. The SRA *Focus* series is illustrative of this use. For instance, there is a *Focus on Self Development* awareness kit for K-6 classrooms.

Media for students with special needs are not as plentiful as they need to be. However, some products geared to low reading levels and appropriate for the classroom are available (Brown). *The Job Box* for low achieving, special need high school students presents comprehensive and realistic job entry requirements, helps students develop a realistic set of values about work, and helps build a realistic but broader view of their job opportunities.

Using career/occupational measurement instruments to enhance classroom learning by helping students see relationships between their characteristics and work and between their courses of study and work is desirable and effective. A tendency to see a district or school testing program apart from the curriculum has resulted in great waste of time and materials. Grossmont, California, has developed and implemented in the classroom a package of materials for students, teachers, and parents to insure an integration of the orientation, interpretation, and followup on the Ohio Vocational Interest Survey (Jacobson).

TV instruction to achieve classroom objectives in career education is enjoying increasing popularity. The *Bread and Butterflies Workshop Handbook* is replete with suggestions for use. In Seattle a teacher's guide is geared to 30 TV lessons on people at work (Severance).

Using media for specific vocational-technical education is proving effective in both comprehensive high school and vocational-technical school settings. Even ten years ago, a Connecticut State Department of Education study showed that teaching of manipulative activity by film, television, and programmed instruction was effective (Calder).

A study in Orange County, California, of programs built around career guidance films, in four different settings with varied delivery systems, showed that the use greatly affects student outcomes. Despite the fact that the same films formed the basis for the program in each setting, student outcomes varied markedly, depending upon use. The films portrayed many jobs that the students in one school perceived as being beyond their options; the delivery system in that school did not provide for bridging the gap between presentation and reality, and the students, although temporarily expanding their level of aspirations, soon rejected the presentation as not only unreal but deceptive (*An Evaluation of Career Guidance Films*).

REFERENCES

Administrative Handbook for Career Education (limited supply)
Richland Parish
P.O. Box 599
Rayville, Louisiana 71269

Bread and Butterflies Workshop Handbook. Bloomington, Indiana. Agency for Instructional Television, 1974. 327pp. (Order from AIT, Box A, Bloomington, Indiana 47401; part of inservice kit.)

Brown, Greg, and others. *Career Education Materials for Educable Retarded Students; Project PRICE Working Paper No. 2.* Columbia: University of Missouri, Department of Counseling and Personnel Services, December 1974. 63pp. ED 104 067.

The annotated bibliography of over 150 commercially available career education materials for educable retarded (EMR) students is the second in a series of working papers from Project PRICE (Programming Retarded in Career Education). Entries are grouped under 22 competencies considered essential for community adjustment, which fall under three primary curriculum areas: Daily living skills (such as managing family finances), personal-social skills (such as communicating appropriately with others), and occupational guidance and preparation (such as exhibiting necessary work habits).

Calder, Clarence R. *Modern Media for Vocational-Technical Education.* July 1967. 45pp. ED 030 726.

To ascertain the degree to which educational media were being utilized in vocational-technical training, a study was conducted involving a review of related literature, and a reporting of four instructional approaches. Examination of literature yielded some generalizable findings, including: (1) Teaching of manipulation activity by film, television, and programmed instruction was reported to be effective; and (2) Industry has found programmed instruction to be at least as effective as other methods of instruction and also has found that it results in less instructional time. Conclusions in 1967 included: (1) The amount and type of educational media in vocational-technical is limited, and (2) Little effort has been made to integrate educational media into the teaching of manipulative skills.

Career Decisions: Finding, Getting and Keeping a Job
Educational Relations
J.C. Penney Company, Inc.
1301 Avenue of the Americas
New York, New York 10019

Kit materials include: Transparencies, filmstrips, a teacher's manual, worksheets, and a phonograph record. Suitable for high school students, the kit's purpose is to make the user aware of the many influences affecting a job choice. Opportunities for role playing and developing job readiness skills are an integral part of the format. All materials and worksheets are well organized and easy to reproduce. The photography in the filmstrip is creative and unusual. In classroom situations where

the use of a record is awkward, the instructor may wish to tape the audio portion. The teacher's manual is well written, promotes teacher involvement in career decision programs, and offers many sources for additional information and suggestions for curriculum incorporation. Materials are applicable to work experience education, elementary psychology, applied marketing, family living, and social studies.

Career Education: The State of the Scene. Washington, D.C.: Office of Career Education (DHEW/OE), November 1974. 274pp. ED 109 402.
One-third of this guide is a state-by-state survey of career education efforts which contains each state's definition of career education, developmental activities, places to look at, publications, and the name and address of the state coordinator of career education. The guide describes in detail three career education programs (Cashmere, Washington; Mesa, Arizona; and Memphis, Tennessee) at the K-12 level. At the post-secondary level, the guide describes projects in six categories: Consultant services, colleges and universities, "career counseling," serving specific target groups, "non-institutional," and institution-based serving a constituency outside the institution. A 27-page section on resource materials provides general references, sources of information, curriculum materials, evaluation materials, and resource information on career education projects.

Carlson, Richard E. *Building a Psychological Career Awareness Model: A Field Study to Evaluate the Effectiveness of Achievement Motivation Simulation on Career Development.* Washington, D.C.: District of Columbia Schools, August 1972. 129pp. ED 068 712.
The purpose of this field study was to determine the effect of using achievement motivation simulations on the vocational development of high school students. Two hundred 10th grade students from four Washington, D.C. schools were randomly divided into a control and an experimental population. The control population remained in the regular curriculum, while the experimental population received one week's training in achievement motivation simulations. The sample population was divided by schools into two equal experimental and control groups. Statistically significant differences between treatment and control groups in three out of four schools demonstrated that vocational maturity increased as a result of the treatment.

Center for Vocational Education
The Ohio State University
1960 Kenney Road
Columbus, Ohio 43210

Economy
ABT Associates, Inc.
55 Wheeler Street
Cambridge, Massachusetts 02138

Educational Planning
ABT Associates, Inc.
55 Wheeler Street
Cambridge, Massachusetts 02138

An Evaluation of Career Guidance Films. Culver City, California: Culver City Unified School District, 1971. 25pp. ED 066 673.

The primary goal of this project was to motivate and assist school staffs in planning and implementing effective vocational guidance programs. A second goal was to determine in what ways and under what conditions the vocational guidance series, "Careers in the 70's," contributes positively to vocational guidance programs. A random sample of students from four schools served as subjects. The findings strongly support the value of including the "Careers in the 70's" film series as part of a vocational guidance program. The films positively affected students' attitudes toward work and motivated them to seek additional information and to make career choices. However, it was not possible to generalize to programs that would merely show the films without their being an integral part of a planned program.

Focus on Self Development, Stage I--Awareness
Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

Focus on Self Development is a series of elementary guidance programs, presented as self-contained educational resource kits, designed to lead elementary school students towards understanding themselves, others, and the environment. *Stage I--Awareness*, suitable for students in kindergarten through grade 6, consists of five filmstrips, seven cassettes, a student workbook, 20 two-sided, 17-inch by 22-inch photoboards, and an instructor's guide. The specific theme of this kit is the development of individual behavior patterns, attitudes, and values. The materials are well written, logically organized, have a high interest appeal, and should provide excellent stimulation for group discussions. The photoboards are excellent and demonstrate good ethnic and sexual balance. The instructor's guide includes copies of the cassette scripts, discussion questions, sources for further information, and many highly motivational supplementary activity ideas. The audio portion of this kit is available on phonograph records as well as cassettes.

Jacobson, T.J. "Using an Interest Inventory in Group Situations: Orientation, Interpretation and Followup." *CVIS Newsletter* (Harcourt, Brace & Jovanovich), No. 4 (September 1973), pp. 1-4.

The Job Box
Fearon Publishers
Education Division
6 Davis Drive
Belmont, California 94002

Severance, Lynn, and Judy Smith. *People at Work: Grades 3 and 4. Permanent Guide.* Seattle, Washington: KCTS-TV, n.d. 163pp. ED 096 493.

The document is a classroom teacher's guide to a series of 30 television lessons designed to introduce intermediate-grade children in the state of Washington to occupations in 14 fields of vocational work. The guide could be used by teachers who do not have access to the televised series as a framework for career education activities. Each lesson guide presents the concepts to be developed, the lesson topic, its focus,

the location of the television film, and background information. For each lesson, several in- and out-of-classroom activities are suggested. The purpose of each of these activities is given, the necessary materials listed, and the procedure specifically detailed and illustrated where necessary. Appended to the guide are program music, student and teacher resources, and clusters of occupational models.

Working

BFA Educational Media
2211 Michigan Avenue
Santa Monica, California 90404

Working is a learning resource kit containing four filmstrips, four cassettes, a set of 20 student activity masters (five sheets for each presentation), and a teacher's guide. The materials are suitable for students from grades 4 through 6. The four filmstrip-cassette presentations are colorful, interesting, and technically well done. The presentations include: Live, on-the-job interviews; illustrated story lines; and graphics. The student activity sheets are well organized and reinforce the concepts presented in the filmstrips. The kit explores the reasons people work, the economic structure of work, the training and experience needed for different jobs, and the future of work. The specific presentations are titled: "Why work?;" "What you're worth;" "On-the-job;" and "Forecast for the future." The teacher's guide includes: Teaching objectives, discussion questions, a synopsis of the presentations, and suggestions for incorporating these materials into the regular academic curriculum. This is an excellent resource for a career center.

* * *

Use by Students in Groups, Other than Classroom

Most materials not specifically tied to ongoing regular academic curriculum are appropriate either in the classroom or in other types of group situations such as group guidance, mini-courses, career club meetings, and workshops. The materials referenced in this section, while probably appropriate for classroom use, appear to address content and concepts not generally perceived as part of the academic curriculum. This is not to say that these concepts are not congruent with the curriculum, but rather that curriculum revision in most areas has not yet made them integral to the core curriculum for all students. Students are more apt to access these media selectively, either by their own initiative, or because a teacher, counselor, or career center specialist suggests their use.

Media to help students understand the process and necessary steps for seeking and obtaining employment fall in this category. SRA's *Knowledge Needed to Obtain Work (KNOW)* is a three-ring loose-leaf binder with colored overhead transparencies, a teacher/counselor guide listing main discussion points to stress with each, and a wallet-sized reference guide for the student. The materials are appropriate for high school students or adults, and are available in Spanish and English. Regional Occupational Programs (ROP) employ these materials with their students. Students also may use the program as a book, on an individual basis.

Games are popular in career courses, career units, guidance units, and other small group settings. The *Life Career Game*, developed by S.S. Boocock, simulates features of labor, education, and marriage markets, and is intended to help students understand and utilize the relationships among these "markets." The game can be played by two to 20 players, with two to four players on each team. Such materials tend to maintain a high level of student interest, and frequently are used as introduction to more comprehensive career planning.

Media to help students in small groups (or individually) experience at least some of the reality of an occupation include kits, displays, and realia. The SRA *Job Exploration Kits* for grades 9-12 are examples. Each kit is designed to give students an opportunity to solve problems typical of a particular occupation. Actual occupational tools are included where appropriate. In Lufkin, Texas, a vocational teacher in auto mechanics developed a tape/slide module showing the dependence of his course information on science, mathematics, and language. The materials were used to encourage students to practice in their course skills acquired in other courses (*Career Education: How To Do It*). Use of media by librarians is illustrated by a Washington State project in which units for teaching the use of the *Dictionary of Occupational Titles* were developed and field tested (*Research and Development Project in Career Education*).

Use of different materials for different populations was illustrated by a USOE-funded project in Pittsburgh, where three types of materials were developed and incorporated into a multimedia guidance system: (1) Basic information materials to teach concepts important to career planning; (2) ancillary materials to stimulate and reinforce student involvement, and training materials for the school; and (3) criterion measures to determine effectiveness of the system. The system contains a series of guidance curriculum units, objectives for meeting each unit, and the media most appropriate for the objectives. There are suggestions for use of the materials by teachers and counselors in various settings. Slide/tapes and films are provided. Different materials for different populations of noncollege youth include consideration of boys and girls, rural and urban youth, central city black and white urbanite, and small and large school attendance. The system is called *A Multimedia Approach to Communicating Occupational Information to Noncollege Youth.*

An Ohio project provided videotaped field trips for use in career/occupational education (*Occutapes*).

REFERENCES

Career Education: How To Do It: Creative Approaches by Local Practitioners. Washington, D.C.: Office of Career Education (DHEW/OE), October 1974. 188pp. Available free (limited supply) from: Office of Career Education, U.S. Office of Education, 7th and D Streets, S.W., Washington, D.C. 20202. ED 105 282.

Ideas for career education activities were written by and aimed at practicing teachers of grades K-12. Writers were participants in mini-

conferences conducted by the Office of Career Education, U.S. Office of Education, that drew from outstanding career education programs throughout the 50 states. Presented in short paragraph form, the ideas specify grade level, include names and addresses of contributors, and are divided into sections representing categories of implementation tasks for classroom teachers, business-labor-industry personnel, counseling and guidance personnel, family members, and educational administrators and school boards. In addition, a chart indexes the ideas by grade level and state.

Dictionary of Occupational Titles. 2 vols. Washington, D.C.: U.S. Government Printing Office. vI--$12.80, 801pp., 1975 (3rd ed.); vII--$11.10, 656pp., 1976. Supplements also available. Available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Knowledge Needed to Obtain Work (KNOW)
Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

Contained in a 3-ring, loose-leaf binder, the *KNOW* materials include colored overhead transparencies, a teacher/counselor guide listing the main discussion points to stress with each transparency, and a wallet reference guide for students available separately. This information has been prepared to assist individuals in understanding the process and necessary steps for seeking and obtaining employment. It is especially helpful to high school students seeking their first job, but it can also be used effectively with adult groups. The materials are well organized, current, and relevant. The introduction stresses that students must know how to select and obtain jobs, using their own resources, because they may expect to "job hunt" several times during their lifetimes. The materials may be used by the individual as a book, noting only the specific information needed, or by an instructor, using the overhead transparencies as visual aids for group discussions. There is some repetition of main concepts in several of the units. The information should be presented in several sessions. All *KNOW* materials are available in Spanish and in English.

Job Exploration Kits
Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

A Multimedia Approach to Communicating Occupational Information to Noncollege Youth. Technical Report. Pennsylvania: Pittsburgh University, December 1967. 280 pp. ED 026 544.

Life Career Game
Western Publishing Company, Inc.
850 Third Avenue
New York, New York 10022

Occutapes. Columbus: Ohio State Department of Education, Division of Guidance and Testing; Mansfield, Ohio: Richland County Board of Education, June 1971. 45pp. ED 055 215.

This project was initiated under provisions of Title III to develop guidelines and recommendations for the development and use of videotaped field trips in guidance and career education in Ohio. The purposes of the project were to: (1) Develop and field test career orientation videotapes (occutapes), (2) refine the tapes and procedures for producing such tapes, and (3) prepare guidelines and present programs to promote the use of the occutape technique within the Ohio educational community. Implementation of the project involved primarily: (1) The cooperation of a steering committee of counselors and school administrators, local business and industrial leaders, local labor unions, and school guidance counselors; and (2) feedback and evaluation of the pilot tapes by students, teachers, and course counselors after field testing, as the basis for revision of the tapes and preparation of the project report and recommended guidelines. Although not as comprehensive as originally planned, the field testing evaluation suggested that the use of locally produced videotapes in business and industry is an extremely effective technique for broadcasting student understanding of the local economic world.

Research and Development Project in Career Education. Final Report. Volume II. Olympia: Washington State Coordinating Council for Occupational Education, August 1973. 192pp. ED 085 535.

Materials produced by teachers participating in the career education project are listed by elementary, junior high, and high school level and keyed to unit numbers. Non-site produced materials are similarly listed. Units on teaching the *Dictionary of Occupational Titles* by librarians and on a freshman social science course are described. Guidelines on availability and dissemination of career information are given. Included are the evaluation forms, with response totals.

* * *

Use in Career Centers, Resource Centers, and Mobile Units

Many of the current media are used primarily in career centers, resource centers, or mobile centers. Most of these materials are intended to be used individually, although some also are appropriate for small groups. Use appears to be somewhat related to the qualifications and role functions of the person(s) staffing the center.

In a 1975 study of career centers in the state of California, investigators showed that availability of media is no assurance that they will be used. Some 38% of the students did not use materials and equipment at all when they were in the career center; 26% spent less than 20% of their time in the career center using materials; 14% spent between 20% and 40% of their time; and only 22% spent more than 40% of their time in the career center using the center's occupational and educational media. The study also showed that printed materials are used more often than audio and/or visual materials. The use of the media appears to be related to (1) accessibility; (2) staff availability; and (3) organization and display, including an efficient filing system. Materials used frequently included

the SRA *Occupational Exploration Kit* and the Chronicle *Guidance Briefs*; the *Dictionary of Occupational Titles* and the *Occupational Outlook Handbook*; books on specific career areas; and *Vital Information for Education and Work* (VIEW) aperture cards with microfiche. Homemade resources also were popular. Career magazines received little use except when incorporated into a program.

The study recommends that:

(1) The staff of a career center place more emphasis on programs and activities that will motivate students to use the center's media, and less on the acquisition of additional media.

(2) No equipment be purchased unless a program or instructional unit has been developed to insure its use.

(3) Career centers stress multiple "hands-on" use of career information resources to insure that lack of use of certain materials is not caused by lack of familiarity with them.

(4) Orientations and career center units for junior high and 9th and 10th grade students be more media-oriented than programs for the upper grades, where students rely heavily on printed materials.

The reader is cautioned that the findings refer to average use of media in career centers; many examples of excellent use of media were identified in California as in other parts of the country (Ellis).

The *Career Decision-Making Program* developed by the Appalachia Educational Laboratory includes a guide for exploring careers through worker traits and suggests resources for career center use. The program includes 15 career guidance units, a career information system, and evaluation materials. The units contain filmstrips that are used as part of the total system to help students learn and apply a career decision making process.

In Blackfoot, Idaho, a mobile career information center visits each high school and works with 10th grade students in groups of 12. Various media, including sound filmstrips, taped interviews, microfilm, books, and pamphlets are used to heighten students' occupational awareness and to help them explore occupations. Media are differentiated for different ability groups (*PACE Center*).

The Educational Development Center in Providence, Rhode Island, reported on 50 selected centers offering career counseling services for women. They found that mostly printed materials were used. Richard N. Bolles' *What Color is Your Parachute?* and Sidney Simon's *Values Clarification* were used in courses and groups presented at the centers. One center used a computer terminal to provide information on careers, college, financial aid, and personal decisions (Tobin).

REFERENCES

Bolles, Richard N. *What Color is Your Parachute? A Practical Guide for Job Hunters and Career Changers.* Berkeley, California: Ten Speed Press, 1974. 208pp. (paper)

Career Decision-Making Program: Interim Product Report. Charleston, West Virginia: Appalachia Educational Laboratory, January 1975. 24pp. ED 106 563.

The interim product report on the Career Decision-Making Program describes products from the program under three headings: Career guidance units, a Supportive Career Information System (CIS), and evaluation materials. The 15 career guidance units each consist of a counselor/teacher utilization guide, providing suggestions for use, and student materials. In addition, units 1-13 contain one or two filmstrips. The Career Information System guide is an organization and management system for career exploration resources. A listing and a brief description is provided of some CIS materials (10 guides, two filmstrips, two charts, three posters, three checklists, eight indexes, and miscellaneous materials).

Dictionary of Occupational Titles. 2 vols. Washington, D.C.: U.S. Government Printing Office. vI--$12.50, 801pp., 1975 (3rd ed.); vII--$11.10, 656pp., 1976. Supplements also available. Available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Ellis, Stephen H., and others. *A Study of Career Centers in the State of California: Final Report.* La Mesa, California: Grossmont Union High School District, June 1975. 191pp. ED 113 442.

California Career Centers are inschool information centers offering a variety of information and guidance which can be used efficiently and constructively by career guidance personnel as an educational tool to facilitate the career development of students. This study represents an effort to assist guidance personnel to implement, maintain, and improve career centers. Data were collected from a questionnaire given to career centers and students in participating schools. Each of the essential parts of an operational career center is discussed at length: (1) Staff (career counselor, work experience coordinator, and paraprofessional); (2) printed and audiovisual sources of career information; (3) career center programs and activities; (4) the effectiveness of career centers on students; (5) financial aspects of operating career centers; and (6) evaluation. Detailed suggestions are offered on ways to implement, maintain, and improve a center.

Guidance Briefs (informational packets, published September-April)
Chronicle Guidance Publications, Inc.
Moravia, New York 13118

Occupational Exploration Kit
Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

Occupational Outlook Handbook. 1976-77 ed. Washington, D.C.: U.S. Government Printing Office, 1976. 781pp. $7.00 (Stock no. 029-001-01306-6).

PACE Center: A Mobile Career Information and Exploration Center. Blackfoot, Idaho: Bingham County Career Education, n.d. 52pp. ED 109 434.
An innovative component of the federally-sponsored Bingham County career education project is the Programmed Activities for Career Exploration (PACE) Center, a mobile unit offering programmed student activities to assist individual students in career planning. The mobile center visits each high school in the county; the sophomore year is selected as the target grade for the career exploration activities, which are limited to groups of 12. A variety of media formats geared to a wide range of academic capabilities (sound filmstrips, taped interviews, microfilm, books, and pamphlet files) is available to students in separate learning stations. The program consists of six components: (1) interest identification, (2) exploration activities, (3) self-appraisal activity, (4) decision making activities, (5) career planning, and (6) career guidance. The report also discusses administrational details of the program such as scheduling, staff, budget, and physical facilities. More than two-thirds of this document consists of supplementary exhibits within the appendixes--information and worksheets, PACE questionnaire, facility layouts, equipment, and instructional materials.

Simon, Sidney. *Values Clarification: A Handbook of Practical Strategies for Teachers and Students.* New York: Hart Publishers, 1972. 397pp.

Tobin, Nancy, and Lise Bang-Jensen. *Report on Fifty Selected Centers Offering Career Counseling Services for Women.* Newton, Massachusetts: Education Development Center, 1974. 105pp.

Vital Information for Education and Work (VIEW).
Career Guidance Services
Department of Education
San Diego County Schools Office
6041 Linda Vista Road
San Diego, California 92111

* * *

Use by Individuals in Various Settings

Some media are designed for use by an individual, with or without assistance. They can be used for independent study in the classroom, the library, the career center, or the guidance office; some can be used in the home. Media for seeking information on occupational selection and entry are illustrated by the career decks of microfilm aperture cards developed by the Tennessee State Board of Education. Called INFOE, the career decks are

designed for students and counselors (Cameron). VIEW, *Vital Information for Education and Work*, developed in San Diego County, California, is another example of aperture cards.

Cincinnati Public Schools' independent learning experience packages include audiovisual presentations and are intended for independent use by 9th and 10th grade students (*Independent Career Education*). In Santa Barbara, California, self instructional packages are revised by students, insuring their continued appeal (Bushnell).

The Career Development Lab, Tulsa, Oklahoma, explores 60 jobs in eight career clusters through taped interviews with workers. The interviews are accessed by junior high school students for individual career exploration, either independently or with the help of a counselor (*Career Development Program*). The University of Wisconsin produced an instructional package for individual students to analyze their goals in relation to career (Loeffler).

One of the few examples of materials appropriate for adults is Dean Dauw's *Up Your Career*, a how-to-do-it manual. The manual provides the independent reader who has career and job questions with a road map of how to find a way out. It suggests a "career checkup" for working adults.

REFERENCES

Bushnell, Don D. *The Production and Validation of Educational Systems Packages for Occupational Training of Depressed Area Students; or Black Student Versus Teacher Evaluation of Urban Vocational Programs. Final Report.* Santa Barbara, California: Communications Associates, September 1970. 215pp. ED 045 778.

This report focuses on evaluation of urban vocational programs by black students. Tutorial review sessions were conducted with 72 black high school students from a large vocationally-oriented school in Philadelphia in order to evaluate and revise self-instructional programs based on standard courses in vocational education. The hypothesis that instructional programs revised under student review would yield more learning for black students than materials revised through instructor feedback was supported. Students contended that status work is barred for blacks and "dead-end" careers at minimum salary levels are offered to non-college bound students before they are able to realistically match abilities and interests against the rapidly changing job situation. Students proposed a demonstration project for high school dropouts which used filmmaking as an aid for dropouts to gain a sense of personal well-being and the ability to communicate before specific career-oriented training.

Cameron, Walter A. *Elementary Information Needed for Occupational Exploration Report.* Nashville: Tennessee State Board for Vocational Education; Knoxville: University of Tennessee, Occupational Research and Development Coordinating Unit, April 1974. 49pp. ED 107 920.

The elementary INFOE (Information Needed For Occupational Exploration) study for grades 4-6 was conducted to assess the feasibility of

establishing an articulated program of career information for students at the elementary school level. Background for the study and the development of the materials is discussed. The major guideline for the INFOE materials was to provide students at the elementary level with basic information on career clusters and general information on specific job titles through a service that reproduced career briefs on microfilm aperture cards. The entire package of 15 INFOE clusters was given to students at each grade level for a given period of time. Teachers completed a 10-item questionnaire, and students were pretested and posttested with a career awareness test. The data and overall favorable responses for each grade level are presented in tabular form.

Cameron, Walter A., comp. *Guide to Secondary INFOE for Counselors and Students.* Nashville: Tennessee State Board for Vocational Education; Knoxville: University of Tennessee, Occupational Research and Development Coordinating Unit, 1974. 126pp. ED 107 921.

Secondary INFOE (Information Needed for Occupational Entry) is a service which enables counselors to provide localized career and educational information to students. The key to the INFOE service is the INFOEscript, a career brief developed for student use in the form of a microfilm aperture card. Each brief describes a specific job title. An alphabetical list of job titles for which there are briefs comprises the Career Deck. A Program Offering Deck provides information on vocational and technology programs offered in Tennessee; the Institution Deck informs students of post-secondary institutions in Tennessee and surrounding states. The development of the materials, directions for use of the cards, and their implementation are discussed.

Career Development Program
Box 45208
Education Service Center
Tulsa, Oklahoma 74145

Dauw, Dean. *Up Your Career.* Prospect Heights, Illinois: Waveland Press, Inc., 1975. 169pp.

Independent Career Education. Grades 9-10. Cincinnati, Ohio: Cincinnati Public Schools, 1973. 52pp. ED 106 671.

The career exploration program for grades 9 through 10 attempts to develop an awareness of and appreciation for work, to extend knowledge of the variety of career opportunities, and to provide experiences in career areas of individual interest. This document, a collection of materials consisting of student learning experience packets, instructional materials, and resources, is designed to introduce the individual student to independent career exploration. The introduction includes an overview of the unit, course objectives, course strategies, and a suggested timetable. The lesson plans, organized according to objectives, activities, and resources, cover: Introductory strategies, a self-analysis quiz, learning to use occupational information, independent career exploration, decision making, and student self-evaluation of career maturity. Suggestions are offered for activities focusing on decision making, additional individualized lessons, interpretation and administration of student self-analysis tests, and group counseling. Teaching strategies

include audiovisual presentations, student displays and reports, simulations, a career exploration notebook, role playing, demonstrations, and exploration trips.

Loeffler, Gordon. *Analyzing a Career. The Wisconsin Guide to Local Curriculum Improvement in Industrial Education, K-12.* Menomonie: University of Wisconsin-Stout, Center for Vocational, Technical and Adult Education, 1974. 11pp. ED 097 552.

The intent of this field tested instructional package is to acquaint the student with a method of career analysis to enable him or her to determine whether a career is in harmony with future employment goals. The package provides behavioral objectives, a student self-test, a basic information section, and a career analysis study to aid the student in the self-evaluation process. A case study of a selected career is suggested as one example of a method for career analysis.

Vital Information for Education and Work (VIEW)
Career Guidance Services
Department of Education
San Diego County Schools Office
6041 Linda Vista Road
San Diego, California 92111

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Use of Computer Systems

Computer media usually are assessed by individuals, and probably should be subsumed under the last section. However, the hardware and software in this area have changed so much in the last few years that a separate section seems justified. The use of a terminal to access accurate and current information developed, updated, and stored in the computer now is recognized as both feasible and efficient. An extended use--that of interaction of a student with the media based on student information/characteristics--excites interest, but adds the cost of entering and updating student information in the system.

Some excellent materials form the programs of these computerized systems, and although a remotely located computer terminal accelerates and facilitates the use of the system, preprinted information and programs can be somewhat adapted for use without a computer. This is particularly true of systems with only a small amount of programmed interaction.

An interesting development thus occurs. The original purpose of computer systems was to organize printed information to give individuals easy and selective access to the information; generating printouts reverses this process and returns the information to a less interactive mode. However, since this printed information is organized for easy access, it may facilitate user entry into the data.

There also has been some attempt to organize print materials to simulate computer access systems. Any system that encourages an interactive process wherein the client controls access points and has an easy opportunity to select those units of information that address his/her question(s) or

problem(s) tends to increase motivation and persistence with problem solution.

In computer systems, the student uses the computer terminal to form and clarify choices and to access materials idiosyncratically selected. The computer thereby rearranges and sequences materials to make them responsively important to the inquirer. Only a computer can provide individualized parts of materials to many users simultaneously, many hours a day, and in a wide variety of settings.

Illustrative systems now operative include SIGI--a System for Interactive Guidance and Information--for the young adult, taking the user through four parts: Values, information, prediction, and planning. It is designed to help college students with educational and vocational planning (Godwin and *SIGI: A Computer-Based System...*).

CVIS, the *Computerized Vocational Information System*, has been widely disseminated and is being used in junior and senior high schools in a number of communities. An interactive system containing college and occupational information and student data, it is found chiefly in career centers and/or guidance offices, with the students generally making an appointment to use the computer terminal. In some schools the counselor suggests use of the computer when a student enters a decision making phase. In other schools students can use the system at will. Project DISCOVER is a new system which uses adapted and extended versions of the CVIS core program, and goes beyond that into value clarification and decision making. This system makes further use of personal data about the student. On-line assessment instruments for user self assessment serve to personalize the interaction. There are to be three components: One for grades 4-6, one for 7-12, and one for adults. Use of this system will undoubtedly extend to colleges and employment centers (Harris).

The *Guidance Information System* (GIS) makes use of some of the ideas employed in the Information System for Vocational Decisions (Harris). It offers the user an interactive search of four data files by entering coded characteristics which are explained in the user manual. Student data are not a part of this system.

Optional use of computers as vehicles for information access is illustrated by the occupational information systems developed through the cooperative efforts of eight states, funded by the *National Occupational Information Service*. Each state compiles and delivers to user agencies occupational information in a variety of media: Computer printout, brochures, microfiche. User agencies include schools, employment services, vocational rehabilitation and social service agencies. The systems will be operational at the beginning of 1977. They provide for cooperation between major producers and users. Students and other users will have easy access to the system, will interact with the computer, and will receive a copy of output to take home.

REFERENCES

Career Information System. Computerized Occupational Information System. 1973. 31pp. ED 084 345.

In a booklet designed to familiarize the reader with use, purpose, operation, and audience of the Career Information System, sample printout pages are presented. The system is intended for high school students, and its ease of use is emphasized. The five-part program consists of an exploratory questionnaire (the QUEST questionnaire) which takes into consideration geographic, economic, and occupational interests as well as physical limitations; brief occupation descriptions of more than 200 careers available in Lane County; selected bibliographies of published information about occupations in the system; cassette recorded information with persons in various occupations; and personal interviews.

Compulearn Career Education Program: Student Guides, Educator Guides, Bibliographies and Career Index, Data Sheets, Career Computer, and Program Cards. Pittsburgh, Pennsylvania: Compulearn, Inc., 1972. 1000pp.

The Compulearn system was developed for use in general education, special training, and business and industry to provide individualized instruction for all age groups in a wide range of career areas and occupational fields. The system apparatus consists of a battery-operated "console" box with two plugs, one for questions and one for answers, and a set of plastic program cards for each career concept. To use the system, a program card is selected and placed on the face of the box and the plugs are inserted into the chosen outlets. If the selected answer to the selected question is correct, immediate reinforcement is provided by a light next to the answer. If no light appears, another answer may be probed or a button pushed to get the answer. In addition to these pieces, the system includes booklets for students and teachers at the elementary, middle, and secondary levels which tell how to operate the program or "play the game" with each card. Another booklet contains a bibliography of books and pamphlets on occupations and careers, with places to write for materials. A listing of career titles and corresponding grade levels also is furnished. A larger booklet of data sheets for various occupations and an information folder complete the package.

Computerized Vocational Information System (CVIS)
Willowbrook High School
1250 South Ardmore
Villa Park, Illinois 60181

Godwin, William F. *SIGI: An Operational Example of Computer-Based Career Guidance. Research Memorandum No. 74-9.* Princeton, New Jersey: Educational Testing Service, May 1974. 16pp. ED 097 590.

This report discusses SIGI, an operational example of a computer-based career guidance system. The system demonstrates that such a service can be performed well and at a cost within the reach of most schools. Data collected during the pilot trial indicate that students who had used SIGI were more aware of the career options open to them and the costs

and risks associated with these options than students who had not used the system. SIGI is viewed not merely as a demonstration of computer-aided education, but more as a demonstration of how technology can be used to give students more control over their lives.

Guidance Information System (GIS)
Time Share Corporation
3 Lebanon Street
Hanover, New Hampshire 03755

Harris, Jo Ann, and David V. Tiedeman. *The Computer and Guidance in the United States: Past, Present, and a Possible Future.* De Kalb: Northern Illinois University, ERIC Clearinghouse in Career Education, 1974. 25pp. Paper presented at the Symposium on Computer-Based Counseling (International Association of Applied Psychology), Montreal, Quebec, July 31, 1974. ED 095 372.

In presenting the state of the art of the computer in guidance programs, it is maintained that there are many potential uses for computers in career decision making. Four types of computer-involved guidance systems were in use in 1970: Indirect inquiry systems, direct inquiry systems without system monitoring, direct inquiry with system monitoring, and direct inquiry with system and personal monitoring. Of the 25 to 30 systems existing then, only five remain. They are direct inquiry systems, and all but one are directed to secondary school students. They are cost feasible, use standard terminal equipment, and specialize in providing career decision making information, retrieval, sorting, and synthesis. DISCOVER is the newest computer-based guidance system under development in the United States. It differs from other systems in objectives, functions, and population.

Haynes, Amos A., and John E. Haugo. *The Development of An Instructional Productivity System.* Paper presented at the Association for Educational Data Systems Annual Convention, New Orleans, Louisiana, April 16-19, 1973. 4pp. ED 087 415.

School District 916 in St. Paul, Minnesota, a special district which provides vocational-technical learning experiences for high school and post-secondary students, developed an Instructional Productivity System (IPS). The IPS was designed to allow the district to monitor the success of the learner-centered instructional model whose features included flexible scheduling, performance contracting, individualized instruction, and accountability. Working in cooperation with a consulting firm, project components were developed to: (1) Assess students' knowledge and skills upon entering vocational training; (2) measure students' actual learning progress against expected progress; and (3) implement a computerized system to monitor student progress and to correlate this information with program costs and effectiveness data.

National Occupational Information Service
Patrick Henry Building
601 D Street, N.W.
Washington, D.C. 20213

SIGI: A Computer-Based System of Interactive Guidance and Information. Princeton, New Jersey: Educational Testing Service, 1974. 11pp. Available from: Educational Testing Service, Princeton, New Jersey 08540 (no charge). ED 112 277.

This pamphlet describes SIGI, a computer-based System of Interactive Guidance and Information designed to help students in community and junior colleges make career decisions. SIGI is based on a humanistic philosophy, a theory of guidance that emphasizes individual values, a vast store of occupational data, and a strategy for processing information. The system is designed so that students who are at different stages in career decision making may use SIGI in distinctive ways.

USES OF MEDIA FOR INDIRECT INTERVENTIONS WITH STUDENTS

Teacher Use of Curriculum Guides and Curriculum Units

The largest number of career education media of a single type are curriculum guides. Both commercially and noncommercially produced guides are abundantly available. Numerous school staffs have developed their own curriculum guides, and there seems to be considerable duplication of effort, although, of course, each guide has some characteristics or components that make it unique.

Curriculum guides for career education cover a plethora of areas from self-awareness materials, through occupational awareness, career exploration, decision making, planning and goal setting. Some are complete units; others are meant to be infused into the regular academic curriculum.

Typically, the curriculum guide outlines activities, procedures, and resources, leaving a teacher free to implement the outline to fit his/her class; resources may be used selectively. Some guides include objectives; some include assessment instruments. Among examples are an elementary curriculum guide in New York which calls for infusion into the regular curriculum (*Career Education in the Elementary School...*). In White Bear Lake, Minnesota, curriculum units for grades 7, 8, and 9 help students explore home economics careers. The same district has a unit to explore careers in the community (Anderson). University City, Missouri, has a science careers curriculum, and a curriculum for a group counseling course. The latter is the basis for a three-week course to groups of eight students meeting for three 30-minute sessions per week (Noble). A Louisiana district uses an interest-based curriculum for house care services in English classes (*Interest-Based Curriculum...*). North Carolina has curriculum guides for grades 1 and 2, using dramatic play to create occupational awareness (Golden). Ohio State University developed an occupational exploration program for junior high, employing a series of simulated occupational experiences (Altschuld).

There are some curriculum guides and units for the disadvantaged and for the handicapped. A Wisconsin curriculum guide presents teaching units and activities for integrating career education into the regular curriculum for educable mentally retarded students (Picago).

Minnesota, among other states, has developed resource guides for career education at each level (Benson). West Virginia has a resource guide with curriculum and instructional materials for rural children in grades 1 through 8 (Holstein).

Guides for specific training curricula are found in many states, including New Jersey and Ohio. In New Jersey, for instance, four units in industrial preparation for vocational students were developed to increase self-understanding in interpersonal vocational relationships, understanding of the sociological impact of urbanization, and civic responsibility of industry. (*Industrial Preparation...*).

Curriculum blending through relating subject matter to occupational requirements is illustrated in West Virginia's 26 resource units for grades 1 - 6 (Olson).

The curriculum guides reviewed, including commercial and noncommercial, appear to embrace a variety of media, and can be used in a variety of ways to achieve a variety of learner outcomes. Units to be infused or blended into the curriculum usually focus on relating subject matter to occupational information, awareness and exploration. Units designed for the regular classroom and related to one or more subject areas sometimes include material on self-awareness and interpersonal relationship skill development as well. Less frequently, curriculum guides and curriculum units address environmental issues, such as the subtle but pervasive influences of the political, social, and economic world. Such materials are designed to enhance the learner's awareness of incomplete and/or inaccurate information, and its effects on his/her options and choices.

Commercially developed curriculum units tend to combine print and non-print materials, often presenting materials for direct student use, such as workbooks, occupational guides, and manipulative materials. Curriculum units and guides developed locally tend to lean heavily on printed materials, most of them addressed to the teacher, although many do list suggested commercial resources to be used with the guides.

REFERENCES

Altschuld, James W., and others. *The Health and Welfare Module: An Evaluation Report for the Occupational Exploration Program.* Columbus: Ohio State University, Center for Vocational and Technical Education, September 1974. 126pp. ED 106 509.

The evaluation report is one of seven produced for the occupational Exploration Program (OEP), a series of simulated occupational experiences designed for junior high school students. In the simulation, students assumed the responsibilities of health and welfare workers in a drug treatment center. The occupational roles included one director, physician, psychologist, medical technician, pharmacologist, nurse, probation officer, and social workers. The experimental design involved two Colorado schools, with a total of four experimental and four control groups involving 73 eighth and ninth graders. Instrumentation included knowledge and affective testing, student and teacher questionnaires, and a panel review. Results revealed that the simulation had a positive impact on student occupational knowledge. No statistically significant results or changes in occupational preference were noted.

Anderson, Joyce and Linda Day. *Home Economics Career Unit for 7th, 8th, and 9th Grades.* Minnesota: White Bear Lake Independent School District 624, 1973. 42pp. Microfiche only. ED 107 766.

The guide, developed as part of an exemplary program for junior high school students, contains lesson plans, independent study guides, and resource lists for junior high school home economics classes. One page describes the seventh grade unit which consists of an in-class presentation by the

director of a nurses aid volunteer program. Nine pages cover the eighth grade unit which consists of worksheets, assignments, and questionnaires related to the following career areas: home related, health, child care, food, clothing and fabrics, home and/or furnishings. Eighteen pages deal with the ninth grade unit which consists of four lessons: "Values and Feelings Toward Work," "Occupational Clusters," "Looking at Myself," and "Investigating Jobs and Careers." An additional eight pages include a sample survey instrument and cover letter, a multimedia resource list and a listing of local resource people for career education.

Benson, Arland. *A Resource Guide for Career Development in the Junior High School.* Minnesota: Minnesota State Department of Education, St. Paul. Pupil Personnel Services Section, Roseville Area School District 623, Minneapolis, 1972. 222pp. ED 067 469.

This resource guide for a developmental junior high career education program contains general and specific behavioral objectives, a program description, and a wide range of resource materials, including student and teacher worksheets and evaluation forms. Developed by a junior high counselor and funded by the Elementary Secondary Education Act, Title III, Guidance and Counseling, the unit is three-hole punched for insertion in a ring binder. Learning activities, specific subject area and grade level, and resource lists are presented in a three-column chart format. An annotated list of films is included. Simulation games and other group activities are provided.

Career Education Curriculum Development Project

Dr. Norman Gysbers
University of Missouri at Columbia
Department of Education
Counseling and Personnel Services
#1 Hill Hall
Columbia, Missouri 65201

The *Career Education Curriculum Project* materials were developed by a staff of experienced counselors and teachers under the direction of Norman C. Gysbers, University of Missouri-Columbia. The four sets of modules and accompanying methods and processes guides are of practical benefit for educators interested in integrating career education concepts into an existing school curriculum. Materials include four sets of teaching modules packaged according to four developmental levels: K-3, 4-6, 7-9, and 10-12. A career education methods and processes guide written for the elementary level is included with each K-3 and 4-6 set. A similar guide for secondary level is included with each 7-9 and 10-12 set. Developmental learning activities in the 20 modules are designed to develop understanding in the areas of: interpersonal relationships; interests; decision making and planning; and life roles, settings, and events (including family, education, work, and leisure.) The two methods and processes guides contain an overview of career education and provide detailed steps for learning to use techniques such as classroom discussion groups, values clarification, interviewing, resource people, role playing, and other processes appropriate for each of the two levels.

Career Education in the Elementary School: An Infused Approach. New York: Long Island University, Greenvale. C. W. Post Center Graduate School of Education, 1973. 319pp. ED 082 026.

Forty school personnel met for a six-week workshop at Long Island University with the aim of infusing career education into existing curricula. Infused behavioral objectives were developed and categorized under eight elements (self-awareness, educational awareness, career awareness, economic awareness, decision making, skill awareness, employability skills, attitudes and appreciations) and 32 themes from the Center for Vocational and Technical Education of the Comprehensive Career Education Model of Ohio State University. For kindergarten through grade 6, resources include audiovisual materials, books, kits, teacher aids, and lists of people from business and industry who might serve as community consultants. For each grade level, there is listed the career education element, a particular theme, the infused behavioral objective, content areas, and resources. A 16-page annotated bibliography for career education is included.

Golden, Loretta. *Occupational Awareness Through Dramatic Play: A Curriculum Guide for Primary Grades: Parts 1 and 2.* Chapel Hill: North Carolina University, Frank Porter Graham Center, December 1973. 391pp. ED 106 669.

Designed for grades K-3, the career education curriculum guide focuses on dramatic play to create an environment which will stimulate children to explore various occupations within the community. At the beginning of the program, the community includes only a few structures. As the students realize the need for more buildings and services, the community continues to develop, with more occupations being explored. The dramatic play is to be spontaneous, with the teacher assuming the role of observer. Research lessons may involve reading, talking to adults, field trips, or audiovisual aids. Sixteen units focus on work related to the post office, supermarket, service station, construction company, airport, bank, department of public works, police department, traffic court, doctor's office and hospital, department of motor vehicles, fire department, newspaper, mayor and city council, and library. Bibliographies on each worker category identify easy and more difficult reading level books, films, pictures, and other audiovisual aids.

A Guide for Occupational Orientation--"The World of Work." Grades 5-7. Austin: Pharr-San Juan-Alamo Independent School District; Texas Education Agency, 1971. 118pp. ED 063 473.

Prepared by staff and consultant coordinators of a pilot project from the contributions of 27 elementary and junior high school teachers, this curriculum guide is designed to orient students in grades 5-7 to the world of work by stimulating interest in planning a career of vocation. The materials are divided by grade level into two sections, with grades 5 and 6 concentrating on career awareness through the exploration of 26 different occupations and grade 7 concentrating on such career development topics as self-awareness, educational awareness, employment-seeking skills, and other types of occupational information. The following instructional components are provided for each occupation and career development topic: (1) general and behavioral objectives, (2) learning experiences, which consist of such activities as student skits in which students role play

workers, individual activities, and group discussions stimulated by resource persons, films, or other instructional aids, and (3) a listing of instructional materials and resources. A bibliography of films, filmstrips, resource persons, field trips, magazines, and books is included.

Holstein, Herbert B. *Improving a Rural Area School Program with Expanded Vocational Educational Services by Utilizing Comprehensive Career Orientation and Exemplary Activities. Interim Report, Volume IV. Resource Bibliography in Career Education.* West Virginia: Lincoln County Schools, Hamlin, December 1971. 26pp. ED 059 391.

Developed as part of an exemplary project for a rural, economically depressed area, this resource guide identifies locally produced curriculum and instructional materials. Items found in the annotated guide include: (1) teaching units for levels 1-6, (2) occupational awareness tests, (3) questionnaires, and (4) inservice training methods and materials. In addition to the annotation, each listing includes the grade level for which it was designed and the extent to which the materials have been tested, refined, and validated in classroom use. The guide cites an evaluation study of this exemplary project in career education. It is hoped that other educators who are engaged in planning and implementing career education programs will benefit from this resource guide.

Industrial Preparation, Volume Two, Sophomore Year--Biology, English, Architecture, Occupations. New Jersey: Hackensack Public Schools, n.d. 264pp. ED 063 464.

Currently relevant topics in English, biology, architectural skills, and occupations are presented in four teaching units for grade 10 by means of model lesson plans, unit projects, and a variety of student worksheets. Supplementing the teaching guide are lists of resource and reference ideas ranging from visual aids to vocabulary terms and learning activities. Approximately half of the volume consists of four separate thematic units aimed at developing language arts communication skills within the English curriculum. The four subjects are (1) newspapers and magazines as examples of mass media, (2) self-understanding derived from discussions of speech, psychology, and literature topics, (3) photography, and (4) correlated language arts activities. Methods of implementing behavioral objectives for each outlined unit are suggested in the detailed unit and program introductions.

Industrial Preparation, Volume Three, Junior Year--Contents: Physics and English. New Jersey: Hackensack Public Schools, n.d. 396pp. ED 063 465.

This grade 11 teaching guide contains two curriculums which focus on 10 team physics projects and five thematic units in English. The 10 group physics projects are derived from the application of three laboratory units on the properties of matter, mechanics, and electricity. The outlined English curriculum ranges from such specifically pragmatic topics as work preparation and physics to more broadly applicable units on television, economics, and prejudice, stressing relevance to the needs and interests of vocational students. Multimedia resources and ideas for the guide include project lists, discussion questions, visual aids, and student reading materials. Procedures for implementing goals include use

of student worksheets for each physics lesson, a student evaluation sheet, term definitions, and detailed daily lesson plans in outline form.

Industrial Preparation, Volume Five, Senior Year--English, Chemistry, Social Studies, and Occupational Relations. New Jersey: Hackensack Public Schools, n.d. 329pp. ED 063 467.

This 12th grade teaching guide presents four units in industrial preparation for vocational students which serve as a general and specific vocational basis either for immediate post-secondary employment or for further formal technical education. The five diverse English curriculum units range from vocational preparation and chemistry topics to discussions of leisure time activities, the film, and current war and peace issues. A social studies unit deals primarily with the sociological impact of urbanization and the civic responsibilities of industry. An occupational relations unit provides sample case studies designed to increase self-understanding in interpersonal vocational relationships, and a laboratory unit of industrially-oriented chemistry topics is designed to develop nine specific laboratory skills. The guide employs a wide variety of "real-life" approaches, such as role playing, to insure student interest. General and specific program goals and rationales and teaching suggestions precede the student reading materials, multimedia resource materials, project lists, and bibliographies.

Interest-Based Curriculum for House Care Services: English. Louisiana: Natchitoches Parish School Board, April 1974. 255pp. ED 107 810.

The interest-based curriculum materials are designed to correlate the subjects of English, math, science, and home economics in an effort to infuse academic skills into the world of work. The curriculum guide is divided into six sections: (1) the world of work, (2) speaking and listening, (3) paragraphing, (4) letter writing and job application, (5) research, and (6) enrichment materials. Activities involve pre-test questions, handouts, films, group work, poetry readings, displays, attitude tests, biography writing, research on occupations, oral reports, discussions, debates, guest speakers, read[illegible] profiles, role playing, and interviews. Instructional materials, eva[illegible]ctive material (unit tests, class evaluation) and resources supplement the lessons.

Investigating Career Opportunities. Curriculum Guide. Arkansas: Little Rock Public Schools, September 1972. 340pp. ED 072 308.

This curriculum guide, developed by a project committee of administrators, supervisors, instructors, and a counselor in the areas of industrial and vocational education, contains three extensive 12-week laboratory units at the junior high school level covering careers in the occupational clusters of business education, home economics, and industrial education. Funded under the Vocational Education Amendments of 1968, this course is intended to provide an overview of career opportunities, techniques for self-appraisal, and help in choosing courses leading to the students' occupational goals. In a 2-column format, teaching procedures are correlated with resource lists of transparencies and student handouts included with each unit. A course rationale, appended student worksheets, time allotments, and detailed behavioral objectives are provided.

Maxwell, David, and others. *Career Education: Curriculum Materials for the Disadvantaged. Information Series Number 83.* Columbus: Ohio State University. Center for Vocational and Technical Education. Report No. IS-83, 1973. 58pp. ED 086 792.

This paper discusses the characteristics and curriculum needs of disadvantaged students and examines curriculum materials for three levels, including career awareness (elementary level), career exploration (junior high level), and career preparation (senior high, post secondary, and adult levels). Curriculum and instructional materials used in educational programs for the disadvantaged will be successful only if they are specifically selected or prepared to meet the needs of those who are to be served, and then only if the learners perceive these materials as meeting their needs. Materials should be in keeping with the reading and interest levels of students, and the materials need to be adapted to the culture of the student. The instructional program should be functionally rooted in the community, which necessitates consultations with community representatives from business, industry, health services, crafts and trades, other labor groups, and public agencies. An annotated bibliography of selected instructional materials is appended.

Noble, LaMartha, and others. *Survey of Occupations, Sociology of Occupations, and Career Awareness. Career Development Project.* Missouri: University City School District, 1972. 60pp. ED 107 785.

Intended for use at the junior high school level, the three units are oriented toward career awareness, personal development, and career information. The 18 lessons in the first unit, Survey of Occupations, examine self-understanding and analysis, occupational choices, employment opportunities, personal money management, the career of an insurance broker, job hunting, school careers, government employment, and job discrimination. Activities include interviews, discussion, research, oral reports, writing short stories, field trips, group work, working on sample forms, games and role playing. The second course, Sociology of Occupations, covers: personality, interests and abilities in relation to occupational satisfaction, employer/employee relations; researching occupational choices; and job application. Activities involve group work, self-evaluation, job analysis, role playing, films, surveys, interviews, reports, and writing notebooks. The third unit on career awareness utilizes eight lessons to expose students to: career preparation; occupational clusters; careers in business and office, communications and media, health, environmental control, and manufacturing; and future job opportunities.

Olson, LeVene A., Ed. *Career Awareness Education: Introduction, Instructional Resource Units, and Annotated Bibliography.* West Virginia: Marshall University, Huntington. Department of Vocational-Technical Education, n.d. 126pp. ED 064 510.

Developed for use in grades 1-6, this teaching guide provides 26 resource units on career awareness. Through a process called curriculum blending (correlating or relating subject matter to occupational requirements), occupational information can be introduced into one discipline or simultaneously into more than one discipline. Arranged in a three-column format of procedures, student activity and resources, the guide suggests teaching strategies for such units as: (1) Wonderful World of Work,

(2) Working at Home, (3) Family Living, (4) Our Parents in the World of Work, (5) Clothes of Today, (6) Workers Within Our Community, (7) Protective Services Provided by Our State, (8) Crafts of Appalachia, and (9) Careers in Music. Suggested teaching techniques include field experiences, simulated exercises of cognitive, affective, and psychomotor nature, resource role models, and multi-media activities.

Picago, Stanley T., and others. *Career Development--Special Education. Volume II: Secondary Edition 7-12.* Wisconsin: Eau Claire Joint School District 5, 1973. 294pp. ED 082 392.

The curriculum guide provides teaching units and activities to integrate career education concepts into the curriculum for educable mentally handicapped children in grades 7 through 12. The focus is on 16 concepts of career development such as the interrelationship between occupations and life style and between education and work. In addition, 12 persisting life situations such as learning to travel and move about and learning to manage one's money are cross referenced with the career development concepts. Career concepts and life situations are coordinated in chart form with behavioral objectives, topic learning activities (organized by subject areas such as social studies or art), resources (such as records, books, or filmstrips), learning outcomes, and suggested evaluation procedures. The senior high curriculum is organized by subject areas (such as pre-vocational information, job adjustment, or language arts) and grade level.

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Career Education Courses

Whereas curriculum guides and curriculum units as treated above usually are designed to be infused into the regular curriculum or to be presented as a part of specific course offerings, some full career education course materials are available. Most of the examples in this category are designed for special groups, such as students in vocational high schools or special education students. One of the problems, particularly at the secondary level, is finding place in the curriculum for another course. When this does happen, the career education course sometimes replaces an orientation course or is offered as an elective. Although the self-contained classroom at the elementary level is apparently a fertile field for a career education course, the organizational flexibility tends to soften the lines between courses, making it easy to present a number of career education units at various points in the curriculum. There appears to be some reluctance to take on another "course;" moreover, there is a considerable push toward the infusion concept. Not only professional educators, but parents and community business and industry representatives as well, see career education as a vehicle for putting meaning into the academic curriculum rather than as a separate subject unrelated to other learning.

Most media designed for course outlines/resources address career awareness, self-awareness, career planning and decision making. Dickinson, North Dakota, has developed course materials for a nine-week, 45 session career awareness course for all vocational high school students during the tenth grade. The materials include seminars, discussions, testing devices, films, and slides (Tuchscherer).

Fullerton, California, uses specially developed materials for a course in career decision making for special education students. A systematic and progressive set of occupational experiences is designed to allow students to move at their own rate in developing self-concept and knowledge of potentials and abilities *(Project Worker...)*.

"Cluster Concept" courses in vocational education for secondary students, developed in 1966 by Maryland University, help develop skills and understandings related to a variety of allied fields and prepare students to enter a family of occupations, rather than a specific occupation. Ten years later, this appears to be a desirable thrust as job mobility increases (Maley).

Multimedia materials are used in University City, Missouri, for a course for career counseling. The materials are intended to develop understanding of the influences of individual differences, diverse views, and one's own abilities on personal values. This is a three-week course involving eight students per group, with three 30-minute sessions per week (Reinhardt).

REFERENCES

Maley, Donald. *An Investigation and Development of the Cluster Concept as a Program in Vocational Education at the Secondary School Level--Final Report, Phase 1.* College Park: Maryland University, August 1966. 135pp. ED 010 301.
The investigation and development of the cluster concept as a program in vocational education at the secondary school level are reported. The "cluster concept" program is aimed at the development of skills and understandings related to a number of allied fields, and would prepare the person to enter into a family of occupations rather than a specific occupation. Review of the literature in the areas of education, labor, economics, and industry has established the need for this type of program. The summaries are presented in three sections--(1) Appropriateness of the cluster concept program, (2) Development of occupational clusters, and (3) Development of course outlines. (For the course outlines see ED 010 303, ED 010 302, and ED 010 304.)

Project Worker: Teacher's Manual for a Course in Career Decision Making for Special Education. California: Fullerton Union High School District, n.d. 193pp. ED 091 560.
Students using this manual proceed at individual rates through a systematic and progressive set of occupational experiences to formulate and know their self-concepts, potentials, and abilities. Emphasis is on independent research and study, and sample lesson plans help teachers coordinate the variety of experiences. The manual includes specific examples and sources for materials, many of them locally oriented, that have been successfully used to teach secondary special education students career decision making and the necessary entry level skills for employment. A course outline in the form of a student checklist provides a guide to preparing the student for gainful employment. Materials in the manual include sample aptitude and interest testing instruments, a listing of jobs in 15 career clusters, suggestions for field trips and guest speakers, a bibliography of commercially prepared instructional materials, suggestions for a basic

collection of career literature, information on setting up cooperative education, providing exploratory work experiences via work stations (including local laws governing such programs), an instructional unit in interviewing, a sample data sheet to help students fill out applications, and a catalog of 82 locally-produced videotapes.

Reinhardt, Judy, and Charlotte Hanselman. *Guidance and Counseling Component, Group Counseling Course. Career Development Project.* Missouri: University City School District, 1972. 43pp. ED 107 782.

The 14 activities in the group counseling course, designed for the seventh grade level, concentrate on the individual goal of heightened self-awareness in order to make life career decisions. Group objectives emphasize: personal interest and values evaluation; better understanding of influences on personal values, of individual differences, of diverse views, and of one's abilities; and the development of a positive self-concept. The structure and scheduling of this three-week course involves eight students per group with three 30-minute group sessions a week. The lessons are divided into nine sessions with 14 coordinated game activities dealing with self-understanding and value clarification. The technique of role playing is often used. Each lesson includes domain, goal, performance objective, group activities, and outcome measure.

Tuchscherer, Jerry. *Career Awareness Exemplary Project. Final Program Report.* North Dakota: Dickinson Public School District 1, December 1974. 57pp. ED 106 559.

The guide briefly describes the objectives and content of a career awareness course consisting of a nine-week block (approximately 45 sessions) which was offered to all Dickinson Area Vocational High School students during their sophomore year. It gives week by week suggestions for implementing the career awareness program, including seminars, discussions, testing devices, films and slides, and individual research projects, and provides as an example a typical detailed lesson plan for a 45-day program. A final synopsis provides assorted suggestions on program development and operation gleaned from the Dickinson experience. Two pages of specific recommendations to ensure the success of career awareness programs are included.

* * *

Teacher/Counselor Resource Materials

The previous two sections presented the use of media directly related to the teaching-learning situation. This section will treat those materials designed as teacher resource guides for information and concept development in career education. Some have suggestions for classroom use, although not tied to a specific program or course; others are intended largely to increase the teacher's or counselor's awareness of the career education field, giving the teacher/counselor a more knowledgeable perspective.

Media intended as idea books, resources for presentation of classroom units, or in other ways directly affecting what goes on in the classroom constitute the largest number of items in this category. There are multimedia resources for teachers to use in the classroom to develop self-image; to

explore economics; to present career clusters; to study job characteristics; to explore job trends and outlooks; and to prepare for, enter, and succeed in the world of work. Teachers wishing to address one or more of these issues may refer to such resource documents for help in any or all of these areas, at all levels--K through 12. Media are usually combined with print materials (books, programmed instruction, scripts, projects, experiments, case studies, and resource bibliographies). Films, slides, and narration, and "how-to" filmstrips also are available.

An example of such a resource is Dunn and Payne's *Handbook for Elementary Teachers and Counselors*. This complete guide differentiates teacher and counselor roles and outlines a developmental program that can be implemented within the existing framework. Peoria has a resource handbook for teachers to use with career education curriculum units. The handbook is designed to assist the teacher in the implementation of the program. Staff development activities focus on three approaches to the development of student awareness (Pryor).

An elementary school handbook for teachers in Dependents Schools in the Pacific Area focuses on the dignity of work and worker. It is a resource guide for teachers to use in relating academic areas to job clusters (*World of Work...*).

The Occupational Safety and Health Programs in Career Education have several components. One of these, a manual, is a guide to organizing a health and safety program in a school, and to delineating the role of the health and safety teacher. It also gives guidelines for establishing, and charts for illustrating, a school health and safety program (DiCarlo).

The second group of materials in the category of teacher resources addresses concepts and procedures designed to enhance the teacher's or counselor's general knowledge in the area of career education, or to assist him/her in planning, implementing, and evaluating a career education program. In other words, these materials are more program-oriented than classroom or student oriented. Materials are available in the following areas: Selection of career development models; materials and resources available to schools and school districts; parent involvement; answers to frequently asked questions; subject matter skills; functions; goals; processes; world of work activities; planning competencies; strategy selection; and evaluation models.

The ETC Project (Enrichment of Teacher and Counselor Competencies) has developed a bibliography of career education materials that help staff members develop competencies in one or all of the following areas: Theory, rationale, and philosophy; noncommercial materials; commercial materials; measurement and evaluation instruments; and annotated bibliographies (Peterson).

From Minnesota comes Project TECE: Teacher Education for Career Education, a printed guide for orienting prospective teachers to career education. It introduces information systems and resource use; career dilemmas and social issues such as changes in the structure and composition of the labor force; a career development program including its values, definitions, and dimensions; and a rationale for the selection and placement of career development tasks (Hansen).

Illinois State University provides 35 instructional packages to develop needed competencies in administrators of career education programs. Administrators may select those packages that cover areas in which they lack competence (*ABC--Instructional Packages*).

Salt Lake City, having developed materials for planning and implementing career education programs in the schools, produced a source book of illustrations, forms, and references for each step of the planning process (Timmins).

A handbook for consultants, workshop leaders, and teacher educators developed in Illinois introduces teachers and other school staff members to the concepts of career education (*Introducing Career Education*).

Objectives banks--collections of objectives for specific age/grade levels and related to various career education goals--also are used by school staffs when planning career guidance programs. Rather than generating their own objectives, many educators find it propitious to select appropriate objectives from an objectives bank, and modify them to fit the situation. Some of these objectives banks have concomitant criterion measures, making them even more attractive because they reduce the local effort. A. American Institutes for Research publication, *Career Education: A Curriculum Design and Instructional Objectives Catalog*, is a good example of a source for objectives related to program outcomes (Dunn). The Master Plan for Career Guidance and Counseling, Grossmont, California, Union High School District presents objectives related to the California Master Plan for Career Development (Jacobson).

REFERENCES

A B C--Instructional Packages: A Model Competency Based Program for the Preparation of Administrators of Occupational Career Education Programs. Normal: Illinois State University, Department of Educational Administration, 1974. 323pp. ED 107 866.

The guide contains 35 instructional packages for preparing career education administrators. Each of the instructional packages contains a rationale, a competency statement, instructional objectives, a pre-assessment, a listing of possible learning activities, and a proficiency test. In some cases supplementary or support materials are included. The first section is on general administration and contains packages on: Organization structuring, record keeping, using data, solving problems, managing by objectives, scheduling, school plant planning, establishing accident prevention programs, budgeting, purchasing, developing an educational philosophy, writing reports, and demonstrating professional behavior. Section 2 on program planning contains packages on: Using external resources, meeting program approval budget requirements, planning programming budgeting systems, preparation of the one- and five-year plan, implementing career education programs, evaluating programs, constructing vocational surveys, and establishing cooperative programs. Packages in section 3 on personnel cover: Developing job descriptions, ranking candidates, interviewing and hiring, orienting staff, in-service training, evaluating instruction,

identifying legal requirements for personnel dismissal, and resolving grievances. Packages in section 4 on public relations cover: Involving advisory groups, enlisting community support, and disseminating program information. Section 5 packages on student services cover: Vocational counseling, reducing drop-outs, and working with special needs students.

Career Education: An Idea Book. Oregon: Portland Public Schools, 1971. 284pp. ED 106 529.

The career education idea book is aimed at the K-6 level and is designed to give useful ideas to teachers making career education a part of their program. The main thrust is developing an awareness of one's self and of the world of work. The book is color-coded for convenience; approximately half is comprised of activities in 11 areas; self-image; family needs; economics; job characteristics; lots 'n lots of jobs; constructions; things to make; class organization; riddles, dramas, and games; field trips; and units. A 26-page audiovisual resource list provides titles available to the Portland public schools, but does not give original sources. Twenty pages illustrate bulletin boards featuring career education concepts, followed by 20 pages of bibliography.

Connor, Pete, and others. *Career Awareness: Owatonna Elementary Schools.* St. Paul: Minnesota State Department of Education, Pupil Personnel Services Section, 1973. 551pp. ED 084 366.

The purpose of the career awareness teacher's guide is to assemble in convenient form learning activities that will give elementary students a greater understanding and awareness of self and the occupational world that surrounds them. The guide is divided into grades 1-6 and organized into monthly sections. For each of the nine months there are five or more activities correlated as closely as possible with the curriculum although not dependent upon it and a listing of suggested resource materials. Although the guide was specifically prepared for use in the Owatonna, Minnesota public schools, it will be found applicable by other school systems.

DiCarlo, Robert D., and others. *Occupational Safety and Health Programs in Career Education.* Boston: Massachusetts State Department of Education, Division of Occupational Education, April 1973. 31pp. ED 078 185.

This resource guide was developed in response to the Occupational Safety and Health Act of 1970 and is intended to assist teachers in implementing courses in occupational safety and health as part of a career education program. The material is a synthesis of films, programmed instruction, slides and narration, case studies, safety pamphlets, courses, and books that are available from various governmental agencies, nonprofit agencies, educational materials distributors, and businesses.

Dunn, Charleta J., and Bill F. Payne. *World of Work: Occupational-Vocational Guidance in the Elementary Grades. A Handbook for Elementary School Teachers and Counselors.* Dallas, Texas: Leslie Press Corporation, 1971. 200pp.

This handbook is a reference guide for elementary school teachers and counselors involved in vocational guidance. It describes and differentiates teacher/counselor roles and outlines a developmental program of career guidance which can be implemented within the existing framework of the elementary school curricula. The program of occupational information is grouped according to preschool and primary grades (K-2), middle

grades (3-4), and later grades (5-6). Vocational developmental tasks and concepts are presented in a chronological order in relation to units. Activities include suggestions for class discussions, projects, experiments, scripts, resource workers, interviewing, and self-evaluation. An extensive bibliography of resources and supplementary materials follows each of the three grade divisions. A concluding appendix provides additional sources of supplies pertinent to the text and a key to book publishers and multimedia producers and distributors.

Dunn, James, A., and others. *Career Education: A Curriculum Design and Instructional Objectives Catalog.* Palo Alto, California: American Institutes for Research in the Behavioral Sciences, April 1973. 375pp. Available from--Dr. James A. Dunn, Developmental Systems, Department 1, American Institutes for Research, P.O. Box 1113, Palo Alto, CA 94302 ($8.50). ED 080 763. Microfiche only.

Intended for administrative personnel, curriculum specialists, and career education project directors who are considering introduction of career education activities in their school districts, this catalog presents a suggested curriculum design and detailed instructional objectives for career education for grades K-9. An introductory chapter provides an overview of historical trends in curriculum, the place of career education in schools, and the characteristics and organization of the career education curriculum. The 1,981 instructional objectives are presented for these broad areas: (1) Self Understanding and Appreciation, (2) Opportunities and Options, (3) Orientation and Goal Formation, and (4) Goal Exploration.

Egan, Jay, and others. *Resource Book of Low Cost Materials for Career Education. Career Education: Volume 10.* Palo Alto, California: American Institutes for Research in the Behavioral Sciences, September 1974. 318pp. Available from: American Institutes for Research, P.O. Box 1113, Palo Alto, California 94302.

A product of the AIR Career Education Curriculum Development Project, this annotated bibliography of low cost materials serves as a direct teacher resource for implementation career education in the schools by providing a compilation of fingertip accessible career education information. Part 2, which follows a brief introduction, consists of 23 citations of books, handbooks, and implementation guides directed to familiarizing teachers with the career education concept and providing methods of incorporating career education in the curriculum. A section of instructional materials cites 42 documents categorized as: teacher handbooks and guides, career exploration, curricula and student texts, student guidance materials, and multimedia resources. Supplementary references include 51 annotations of other bibliographies, journals, periodicals, and newsletters; sex stereotyping and career education; and other key resources. A children's literature survey describes 100 children's books which deal directly or indirectly with career education concepts.

For Those Developing World of Work Resource Units for Elementary School Teachers. DeKalb: Northern Illinois University, n.d. 160pp. ED 062 519.

This package of practical ideas collected by the Authentic Basic Life-Centered Education (ABLE) Model Program should be useful for teachers

and administrators who are revising curriculums and writing curriculum guides for the elementary and intermediate level. Suggested units are based on an "organizing center concept" such as banking, baking, and the telephone business, and are divided into groupings of: (1) resources (accessibility)--what tools, materials, and human talent can be used to make a unit accessible to the child, (2) content (mobility)--how can the subject material pull together new relationships from past studies, or enable children to encounter the fundamental activities of the community, their religion, their culture, and (3) performance (accomplishment)--how can the child express himself, use different resources, and show others what he has learned. Materials have been tested, evaluated, and revised in a variety of classroom settings.

Hansen, L. Sunny, and others. *Orienting Prospective Teachers to Career Education; Project TECE Teacher Education for Career Education.* Minneapolis: Minnesota University, College of Education, September 1973. 112pp. Available from: Documents Section, 140 Centennial Building, St. Paul, Minnesota 55155 ($1.50). ED 109 390.

This guide for orienting prospective teachers to career education opens with an introductory discussion of the needs of youth, the emergence of career education programs, and teacher education programs in career education. Section 2 discusses components of teacher preparation programs in career education. Section 3 covers various career dilemmas and social issues such as changes in the structure and composition of the labor force and special needs of bypassed populations. Section 4 covers the historical development and theoretical underpinnings of career development. Section 5 discusses the career development curriculum, specifying its values, definitions, and dimensions. Sections 6 and 7 cover the career development program. Ten pages of references are included, as are 15 pages of supplementary appendixes including career education models, resource materials, and lists of resource persons.

Insko, Merle A., and others. *Orientation to the World of Work: A Guide for Teachers.* Lexington: Kentucky University, Vocational Education Curriculum Development Center, July 1974. 290pp. Available from: Curriculum Development Center, Room 151, Taylor Education Building, University of Kentucky, Lexington, Kentucky 40506 (Single copies only, $7.00). ED 098 425.

The exploration phase of career education in the middle school years places equal emphasis on exploration of specific occupational clusters and on the relevancy of academic subject matter to career goals. Intended for use as a resource for junior high school teachers in introducing the exploration phase of career education, the guide is organized so that the teacher may choose the portions that are best suited to the classroom situation. It may serve as an introduction to each or all of the 10 cluster guides: Agribusiness and Natural Resources, Business and Office, Communication and Media, Construction, Consumer and Homemaking, Fine Arts and Humanities, Health, Manufacturing, and Distribution. It also functions as an instrument to integrate appropriate sections into subjects of the existing curriculum such as general business, social studies, and language arts.

Introducing Career Education to Teachers: A Handbook for Consultants, Workshop Leaders, and Teacher Educators. Springfield: Illinois State Board of Vocational Education and Rehabilitation, Vocational and Technical Education Division; DeKalb: Northern Illinois University, April 1972. 108pp. Available from: ABLE Model Program, Northern Illinois University, DeKalb, Illinois 60115 ($5.00). ED 067 487.

Developed to help promote career education in the classroom, this resource guide can be used by teacher educators, consultants, and workshop leaders in introducing career education to teachers. The first section introduces the contents and concepts of the material in the guide. Section II concerns establishing a relationship with a local school district, while Section III presents a brief discussion of how basic ideas interact with one another in the curriculum development process. Suggestions for organizing and conducting workshops are included in sections IV and V. Section VI suggests answers to frequently asked questions and Section VII identifies materials and sources available to school districts. Additional sections relate to: (1) parent involvement, (2) subject matter skills, (3) world of work activities, and (4) humanizing the curriculum.

Jacobson, Thomas J., and Anita M. Mitchell. *Master Plan for Career Guidance and Counseling. Final Report.* California: Grossmont Union High School District, June 1975. 368pp. ED 112 342. Microfiche only.

The Master Plan for Career Guidance and Counseling grew out of the recognition that a prerequisite for the provision of an outstanding, efficient and effective career guidance and counseling program was district-wide planning. The professional counseling staff as well as administrators, teachers, students, parents and community members were involved in the project in an effort to meet the needs and recommendations of the communities served by the plan. The plan was modified for each high school to adjust to their particular needs. The report describes the rationale underlying career guidance and counseling, presents a model which directs the whole plan and offers various assessment and evaluation measures of the procedure and strategies to be followed. Finally, it delineates expected costs of the plan and possible future steps to refinement of the plans.

Koeninger, Jimmy G., and Darrell L. Ward. *Evaluation Report--An Interaction Simulation: Coordinated Local-State Vocational Education Planning. Final Report.* Columbus: Ohio State University, Center for Vocational and Technical Education, May 1972. 77pp. ED 065 662.

This evaluation report encompasses two 3-day leadership development workshops conducted for state department staff and other vocational personnel in order to evaluate a simulation leadership training package. Prior to the workshops, the training package was developed, pilot tested, and revised. Consideration was given to developing a training package that would: (1) provide a realistic learning environment in which the planning process could be experienced, (2) generate a high degree of participant involvement, (3) increase understanding and ability to apply the planning techniques, and (4) incorporate a strategy allowing implementation with large or small as well as local or state groups. Specific conclusions were: (1) The simulation package is equally effective for state-level administrators, supervisors, and other state-level personnel, (2) The activities generated and maintained participants'

involvement and enthusiasm throughout the experience, and (3) The package did provide a realistic learning environment in which the knowledge, skills, and techniques of vocational education program planning could be applied.

McCutcheon, James Randall. *An Assessment of Factors Related to the Diffusion Strategy for Simulation Training Materials.* Columbus: The Ohio State University, 1973. 99pp. Available from: University Microfilms, 300 N. Zeeb Road, Ann Arbor, Michigan 48103 (MF $7.50, Xerography ($15.00).

This study was prompted by the lack of a well developed strategy for the diffusion of simulation training materials developed by the Center for Vocational and Technical Education at the Ohio State University for use in vocational leadership development programs. Specifically, the study sought to: (1) describe the strategy to diffuse the three simulation packages, (2) describe the characteristics of the workshop participants who were prepared to be trainers and diffusers of the materials, and (3) assess the relationship between selected demographic and attitudinal factors and the stage of plans which the participants developed for utilizing and diffusing the simulation materials. The strategy was aimed at creating a widespread diffusion capability by using a "trainer of trainers" strategy. The tactics were: (1) initial awareness, (2) personal letter followup, (3) mailing of workshop announcements and applications, (4) selection and notification of participants, (5) planning and conducting workshops, (6) telephone followup of trainers, and (7) distribution of materials. Evaluative outcomes are included as are detailed procedural efforts.

Peterson, Marla, and others. *Bibliography of K-6 Career Education Materials for the Enrichment of Teacher and Counselor Competencies (ETC. Project).* Charleston: Eastern Illinois University, Center for Educational Studies, October 1972. 201pp. ED 073 287.

Prepared for staff of the Enrichment of Teacher and Counselor Competencies in Career Education (ETC) Project but of use to local school personnel in developing K-6 career education programs, this annotated bibliography contains career education materials found through a review of research reports, articles in professional journals, and commercially and non-commercially published materials. Entries are arranged according to these categories: (1) Theory, Rationale, Philosophy, which includes professional materials listed alphabetically by author or title, (2) Non-Commercial Materials, which includes curriculum guides, projects, and units listed alphabetically by state, (3) Commercial Materials, which contains books and audiovisual materials listed according to types of packaging (films, books, etc.) and content relating to self-development, world of work, and occupational clusters, (4) Measurement and Evaluation Instruments, which lists instruments for measurement of self-awareness and occupational interest in young children, and (5) Bibliographies. In addition to titles and author(s), each entry contains publication information and an annotation, which was either written by ETC staff or was reproduced from abstracts appearing in "Resources in Education" (RIE), "Abstracts of Instructional Materials in Vocational and Technical Education" (AIM), or "Abstracts of Research Materials in Vocational and Technical Education" (ARM).

Pryor, Charles V., and others. *Project People of Peoria: Career Awareness and Exploration. Resource Handbook.* Illinois: Peoria School District 150, January 1974. 294pp. ED 094 142.

Using the career education units developed during the 1972-73 school year by Peoria District 150 teachers as its primary resource, the resource book was compiled by workshop participants to assist elementary and special education teachers in the implementation of integrated career education. Staff development activities focus on three major approaches to the development of student awareness and competencies: (1) the person-centered interview emphasizing the person in the occupation; (2) the career visit; and (3) development of work units centered around people in occupations. Presented according to grade level, K-8, each unit provides behavioral objectives, activity and bibliographies. A 63-page unit for children with learning disabilities deals with language, motor, and perception problems.

Resources for Career Development. South Bend, Indiana: Indiana University, Indiana Career Resource Center, 1972. 67pp. ED 075 637.

Intended to provide educators, research workers, and others interested in career education with a catalog of ideas useful in promoting career development, this bibliography identifies approximately 500 publications, reports, audio, video, and manipulative materials available for purchase from commercial suppliers or short-term loan from the Indiana Career Resource Center. Each section is color coded and contains resources appropriate to users at the elementary, middle and secondary, and post-secondary levels. Entries are arranged alphabetically by title or author in categories depicting the type (e.g., printed information, films) of resource and include publication information and a short descriptive statement which lists the nature, suggested use, price, source of entry, and whether or not the material is available in a series.

Timmins, William M. *Implementing Career Education in a Local Education Agency: A Source Book.* Salt Lake City: Utah State Board of Education, 1974. 188pp. ED 096 551.

This source book was compiled to contain the materials supplemental to a planning guide (ED 096 550) designed to assist educational leaders at the district level with planning and implementing a program of career education. Illustrations and forms too voluminous to be contained in the guide are organized by steps recommended for planning: (1) conduct needs assessment, (2) define and analyze need for career education, (3) consider alternatives and design career education program, (4) implement career education program, and (5) evaluate and revise as necessary. Among the materials are descriptions of model programs, checklists, samples of correspondence, organizational charts, sample objectives, examples of curricular materials, and bibliographies. A job-placement manual, sample student work-experience record forms, information pertaining to child labor laws, and a plan activity diagram illustrate the implementation of a program of career placement.

World of Work; Elementary School Handbook. Washington, D.C.: Dependents Schools (DOD), Pacific Area, August 1972. 262pp. ED 085 498.

Implementing the concept that there are two unchangeable factors of economic society (the dignity of the worker and the dignity of work),

the handbook is designed for professional personnel concerned with elementary education in Department of Defense Dependents Schools in the Pacific Area and is to be used in all educational programs. Written by a committee of educators during a summer workshop, the handbook constitutes a practical program in career education. The purpose, concepts, and objectives of the program are listed. A career cluster wheel, definition of each cluster, and a partial list of occupations found in the cluster comprise the next section. The handbook next discusses the roles of school personnel in career education, community assistance, field trips, and the general characteristics and behavioral objectives for students ranging from five to eleven years old. Suggestions are made for job cluster activities and implementation of selected activities in several academic areas. The handbook concludes with a detailed list of sources including a bibliography of children's books; occupational films, filmstrips, recordings, and songs; catalogs of audiovisual material, addresses of producers and distributors, and sources of free materials.

York, Edwin G., Compiler. *A Compilation of Resource Lists for Vocational Educators: An Annotated Bibliography of Bibliographies in Vocational Education, 1960-1969.* Trenton: New Jersey State Department of Education, Occupational Research and Development Branch, 1969. 298pp. ED 049 367.

A total of 579 bibliographies, compilations of abstracts, order lists, periodical indexes, reproductions of library catalog cards, books, newspaper and journal articles, government and research documents, microforms, films, and filmstrips made available between 1960 and 1969 were compiled as a resource guide for vocational educators. The materials were gathered from literary sources, 25 libraries which serve large teacher-training programs, 50 large industrial corporations, the research coordinating unit or state library in each state, and over 100 professional associations.

* * *

Use of Media for Training Teachers and Counselors

The second part of the preceding section addressed the use of media for enhancement of teachers' and counselors' knowledge and competencies in career education. Many of these are self-help or independent study materials. This section will treat the use of career education media for more formal teacher training. Print and nonprint media in preservice education of teachers and counselors and in staff development could reinforce learning. All too often the only medium is the instructor, lecturer or workshop leader, and if support media have not been used in the presentation and are not available for participants to refer to after the training, much impetus for change may be lost.

Some innovative uses of media have emerged and will be presented here. The American Institutes for Research has produced 12 competency based training modules for teachers, counselors, administrators, and other team members who will be planning and implementing career guidance programs. The materials are designed for training the school team in a workshop setting under the direction of a trained leader. However, they may also be used by highly motivated individuals, as the applications sections give users an opportunity to practice competencies using data from their own school and program *(Developing Comprehensive Career Guidance...)*. An additional 27 modules are

under development, with participation of state departments of education and major universities in four states; these modules are designed for training personnel in specific competency areas such as training and supervising paraprofessionals; developing and managing a career center; working with the elderly; working with the handicapped; and a study of futures as that topic bears on career education. At the Center for Vocational, Technical and Adult Education in Wisconsin, a study of the use of media resources in vocational-technical and adult education revealed that media use was tied to motivation and to familiarity with the benefits of using the materials. An inservice workshop was developed to teach applications of instructional technology (Igl).

In Madison, Wisconsin, an Educational Telephone Network was set up for extension classes at the graduate level for teachers, counselors, and administrators. Print materials were used to augment the telephone lecture/discussions (Ristau). An instructional packet for advisory councils in vocational education was developed in Utah for orientation of school personnel and community members to the procedures for and the values of involving parent and community representatives on an advisory body (Martin).

REFERENCES

Abstracts of Instructional Materials in Vocational and Technical Education and Abstracts of Research and Related Materials in Vocational and Technical Education; Annual Index, 1970-71. Columbus: The Ohio State University, Center for Vocational and Technical Education, 1971. 701pp. Available from: The Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210 (quarterly--one year $11.00, two years $18.00) ED 057 257.

This publication provides combined cumulative indexes to the five issues of "Abstracts of Instructional Materials in Vocational and Technical Education" (AIM) and "Abstracts of Research and Related Materials in Vocational and Technical Education" (ARM) published Fall 1970 -Fall 1971. Researchers, supervisors, teacher educators, education specialists, administrators, and teachers may use this document as a tool in searching by author or by subject for materials acquired and processed by the Educational Resources Information Center. AIM and ARM are explained further in the EVALUATING AND SELECTING CAREER EDUCATION MATERIALS section.

An Annotated Bibliography of Instructional Materials in Cooperative Occupational Education. Springfield, Illinois: Illinois State Board of Vocational Education and Rehabilitation. Division of Vocational and Technical Education, Northern Illinois University, DeKalb, Illinois, June 1974. 157pp. ED 099 615.

This annotated bibliography was designed to assist teacher-coordinators in cooperative occupational education to be more efficient and effective in selecting, utilizing, and recommending the purchase of instructional materials. A consultant panel of 10 experienced local teacher-coordinators reviewed materials from over 700 publishers. Only those items determined by the panel to be of most value to local teacher-coordinators are included in the bibliography. Each entry lists title, author, publisher,

relevant occupational field, media type, a short discussion of the subject content, cost, learning effectiveness, cost effectiveness, and a comment on possible uses of the material.

Borman, Christopher, and Walter F. Stenning. *A Report of Career Education Material Effectiveness as Judged by Teachers. Technical Report No. 2.* College Station, Texas: Texas A and M University, Center for Career Development and Occupational Preparation, July 1973. 200pp. ED 094 193.

Thirty-two master teachers, working in grade-level and instructional area groups, rated 66 sets of career education materials by 15 criteria, such as organization; clarity of objectives; appropriateness to grade level; and organization, clarity, and appropriateness of classroom activities. An annotated list of the materials is appended. The largest portion of the document is devoted to tables representing the ratings of each set of materials by each set of criteria. A brief summary of the findings reveals that many of the materials were rated as excellent, although only 15 sets were judged to be organized to fit specifically the intended grade levels. The teachers reported that 45 sets of materials suggested reasonable classroom activities.

Developing Comprehensive Career Guidance Programs. Palo Alto, California: American Institutes for Research, 1975. 90pp.

Drier, Harry N., Jr., Editor. *Career Development Resources: A Guide to Audiovisual and Printed Materials for Grades K-12.* Columbus, Ohio: Center for Vocational and Technical Education, 1973. 301pp. Available from: Charles A. Jones Publishing Company, Worthington, Ohio 43085 (No price given).

This publication offers approximately 2,200 titles of films, filmstrips, slides, tapes, scripts, games, kits, printed materials, songs, records, and other aids which may be used by school counselors and instructional staffs to integrate career development into the total school curriculum. The main source for 1,000 new listings was curriculum and guidance units developed by teachers and counselors in hundreds of school districts throughout the United States, to assure the researchers that the materials had been screened, analyzed, and utilized to deliver specific career development goals. Many resources listed are accompanied by a very brief abstract. All resources have been grouped in terms of their appropriateness to clusters of grades; within grade clusters, resources are further categorized according to career development objectives; the final categorization is by type of media. A bibliography of professional readings is also presented in the final section of the book.

Igl, David H. *Project to Determine the Use of Media Resources in Vocational-Technical and Adult Education. Final Report.* Stout, Menomonie: Wisconsin University, Center for Vocational, Technical and Adult Education, August 1972. 172pp. ED 072 254.

To increase media utilization in Wisconsin's vocational-technical education districts, a study was made to determine factors that impede or enhance the use of media and a program was set up to implement the study findings. Following a literature review and surveys of educators, an inservice workshop was developed to teach applications of instructional technology in vocational-technical education and to motivate teachers to use the technology. Attitudes of participants before and after the workshop were tested, with more positive attitudes being evidenced after

the workshop. As a result of the media utilization survey and the instructional technology inservice workshop, it was concluded that; (1) the existing audiovisual service programs in the Wisconsin vocational-technical system have been successful in acquainting teachers with the more common types of media but have not developed teacher competence in planning the optimum use of instructional media, and (2) inservice teacher training can be used successfully on the vocational-technical school level in Wisconsin, and the attitude of teachers toward instructional technology can be improved through inservice workshops.

A List of Curriculum Guides, Course Outlines, and Instructional Materials for All Areas of Vocational Education. n.d. 51pp. ED 099 561.
This bibliography provides listings of currently available curriculum guides, course outlines, instructional and reference materials, and visual aids relevant to all areas of vocational education. The major areas under which listings are grouped include business and office occupations, trade and technical vocations, health education and occupations, consumer education, teaching agriculture, distributive and cooperative education, automotive mechanics, and electronic servicing. Almost all the listings include pricing information and some are annotated.

Mann, Joe, and Jim Henderson, Editors. *Catalog of Audiovisual Materials Related to Rehabilitation.* Alabama: Auburn University, Alabama Rehabilitation Media Service, February 1971. 353pp. ED 061 511.
An annotated listing of a variety of audiovisual formats related to the social-rehabilitation process is provided. The materials were selected from a collection of over 200 audiovisual catalogs. The major portion of the materials has not been screened.

Martin, Loren, and John F. Stephens. *A Project to Develop an Instructional Packet for Advisory Committees in Vocational Education to be Used in the Orientation of School Personnel and Committee Members. Final Report.* Salt Lake City: Utah Research Coordinating Unit for Vocational and Technical Education, October 1971. 50pp. ED 062 567.
Advisory committees have been used in limited numbers because school personnel have not been aware of procedures for establishing such committees or how to use them effectively. The purpose of this project was to develop an instructional packet that would contain information concerning the establishment, orientation, development, and use of advisory committees for vocational education. Eight persons served as a jury to evaluate the packet and suggest revisions. The packet, contained in this document, is made up of eight basic parts: (1) The Importance of Advisory Committees, (2) Types of Committees and Their Functions, (3) Selection of Committee Members, (4) Operation of Advisory Committee, (5) Activities and Services, (6) A Suggested Audio Visual Presentation, (7) Effective Use of Advisory Committees, and (8) A Suggested Agenda for Newly Formed Committees.

Moore, Allen B. *Supplement to Abstracts of Instructional Materials for Career Education.* Columbus: Ohio State University, Center for Vocational and Technical Education, 1973. 75pp. ED 075 576.

As a supplement to a bibliography of career education instructional materials (available as ED 068 627), this publication includes abstracts and indexes of additional instructional materials for career education that were acquired by Palo Alto Educational Systems in a national search under a subcontract with The Center for Vocational and Technical Education. The search was for materials that might be used in the school-based Comprehensive Career Education Model under development by The Center. These materials, also available to the profession, have been included in earlier editions of Abstracts of Instructional Materials in Vocational and Technical Education (AIM), Abstracts of Research Materials in Vocational and Technical Education (ARM), and *Resources in Education* (RIE). Curriculum units, teacher guides, handbooks, and other career-related instructional materials are included.

Reynolds, William E., and Lonnie M. Hart, Compilers. *A National Annotated Bibliography of Curriculum Materials in Vocational and Career Education.* Springfield: Illinois State Board of Vocational Education and Rehabilitation, Division of Vocational and Technical Education, 1974. 829pp.

The bibliography lists 410 curriculum materials in vocational and career education. It is an attempt to discover and illustrate the amount of curriculum materials available, but seldom publicized beyond local or state boundaries. Besides providing an annotation describing each item, the bibliography includes the title, developer, type (career or occupational education), form, target level of student, consulting services available, copyright restrictions, ERIC number if available, and state and agency submitting the abstract. Illinois is one of seven states participating in the National Network for Curriculum Coordination in Vocational and Technical Education (NNCCVTE) and published this document as part of the Curriculum Management Center responsibilities.

Ristau, Robert A. *An Evaluation of the Educational Telephone Network (ETN) as an Instructional Delivery System for a Graduate Course in Career Education.* Madison: Wisconsin University, Center for Studies in Vocational and Technical Education, March 1973. 25pp. ED 079 509.

This report describes a program of extension classes which enrolled 164 teachers, administrators, and counselors from Wisconsin schools for a University of Wisconsin graduate extension course. Professional advancement and assistance in developing career educational programs were the primary objectives of most of the enrollees. During the fall semester the course was taught using the Educational Telephone Network (ETN) statewide facilities with interface sessions which brought several local groups together for the ETN class presentation and discussion. Nearly half the students evaluated the course as equal to or better than the traditionally taught extension courses. The quality of work the students accomplished appeared to be excellent and objective examinations indicated a good overall level of achievement.

Search and Assessment of Commercial Career Education Materials. Chicago, Illinois: Peat, Marwick, Mitchell and Company, 1972. 89pp. ED 075 657.

This project was designed to secure and screen available education materials appropriate for actualization of Comprehensive Career Education Model-1 (CCEM-1) objectives, and to process, assess, and classify selected potential commercial education materials for

incorporation into instructional units and/or supportive educational activities. To achieve the objectives, a 50-member consulting team was assembled from both the educational and business communities. This team: (1) identified suppliers, (2) secured suppliers participation, (3) identified career educational materials, (4) procured suitable materials, (5) assessed suitable materials, (6) indexed and abstracted the positively assessed material, and (7) delivered the materials and instruments. Of the 580 commercial suppliers contacted, 313 had material available for procurement and assessment, and 128 of these reported additional materials under development. A total of 2,016 of the 2,344 units received were assessed as applicable to CCEM-1 objectives.

Vetter, Louise, and others. *Career Guidance Materials: Implications for Women's Career Development. Research and Development Series No. 97.* Columbus: Ohio State University, Center for Vocational and Technical Education, June 1974. 90pp. Available from: The Center for Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210 ($6.00). ED 106 542.

Sex-role stereotyping was found in almost all post-1970 high school level career guidance materials studied in a content analysis of more than 9,500 pages and 1,850 illustrations. Random samples of the materials, taken from commercial and noncommercial lists, indicated that: About 75 percent of illustrations of people of one sex were men; 75 percent of proper names used were male; 33 percent of men and 4 percent of women were pictured outdoors; 36 percent of the materials differentiated between male and female career patterns and 14 percent on pay scale; and 30 percent mentioned "working mothers." Recommendations include: (1) honest discussions of occupational skills and life styles, (2) the use of the third person plural form of pronoun wherever possible instead of the usually unjustified use of "he" or "she," and (3) awareness of sex-role stereotyping throughout the materials rather than in special statements on the subject.

Vocational Instructional Materials for Technical Education Available from Federal Agencies. Portland, Oregon: Northwest Regional Educational Laboratory, August 1971. 109pp. Available from: Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402 (Stock No. 1780-0841; Catalog No. HE5.10:V85TE, $1.25). ED 058 450.

This annotated bibliography lists curriculum materials for technical education produced by Federal agencies related to these subject matter areas: Engineering, agriculture, health, office, and home economics. Where possible, these subject matter areas are further subdivided into specific occupational areas. In addition to the technical education area, instructional materials which may have general application to any vocational area are classified into these categories: Basic education, related education, guidance and counseling, teacher education, and disadvantaged handicapped: internal and external.

EVALUATING AND SELECTING CAREER EDUCATION MATERIALS

Many information sources are available to help you evaluate and select career education materials. The Office of Career Education, USOE, has on file over 2000 materials developed noncommercially for use in career education. The Ohio Center for Vocational Education annually updates its index of Abstracts of Instructional Materials in Vocational and Technical Education (AIM) and Abstracts of Research and Related Materials in Vocational and Technical Education (ARM), both coordinated with ERIC *(AIM/ARM; 1973 Annual Index)*. Peat, Marwick and Mitchell conducted two searches, one for commercial materials (*Search and Assessment...)* and one for noncommercial materials *(Instructional Materials...)*. In addition they devised and applied an evaluation scheme which, for noncommercial materials, allowed materials to be rejected at different criterion points.

The Educational Products Information Exchange (EPIE) has recently completed a survey of over 750 career education materials both from commercial and noncommercial sources *(EPIE Report...)*. Information includes copyright date, grade level(s), type of material, price, purpose, and whether any research has been done using the materials. EPIE also presents a scheme for users to evaluate materials they are considering for purchase. A U.S. Office of Education publication, *A Classification Scheme for Career Education Resource Materials*, (Koontz), presents a template for evaluating and classifying materials. There are number of bibliographies of materials, some of them covering the national scene, others identifying appropriate locally available materials for use in local career education programs. Schemes for evaluation also are plentiful. *An Instrument for the Qualitative Evaluation of Media Programs in California*, produced by the State Department of Education, is an example of states' efforts in this area.

Criteria for selection of media include content bias, adequacy and consistency, learner performance evaluation, versatility, and user support components. It is doubtful that the average school staff member or team, faced with the task of selecting materials for a career education program, has the time or expertise to apply all the appropriate selection criteria. Staff members should be aware of the criteria, and should assess their local situation to clearly identify criteria that should be used in selection of materials for their individual setting. Once these decisions are made, however, it would be propitious to consult the various available annotated bibliographies. One of the newest and most promising has been developed by the San Diego County Schools based California Pilot Career Guidance Center. Called *Career Texts and Resources*, the publication contains annotations of 100 materials from among the thousands catalogued. It is available both in looseleaf notebook form and in needle-sort access cards. We hope funds will make it possible for the group to expand on this first phase publication.

In a recent study of career education programs in the nation's public schools, the American Institutes for Research catalogued 797 commercial and 2193 noncommercial materials. Their findings will be presented in the next section.

The Center for Vocational Education, Ohio State University, as part of their Career Guidance, Counseling, Placement and Followthrough Program for Rural Schools, has developed a *Handbook of Resources* to accompany the program. All materials presented have been reviewed in terms of selected, standard criteria related to usability in rural school systems. All materials are abstracted. Compendiums such as this may be used by teachers and program planners to locate materials appropriate for integral or peripheral use in career ecuation programs.

REFERENCES

AIM/ARM

Center for Vocational and Technical Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

The two previously separate journals, *Abstracts of Instructional Materials in Vocational and Technical Education* (AIM), and *Abstracts of Research Materials in Vocational and Technical Education* (ARM), have been merged to form *Abstracts of Instructional and Research Materials in Vocational and Technical Education*. This combined journal is issued six times per year. Each issue of the abstract journal is entered into *Resources in Education* (RIE) under one ED number, and each group of documents announced in the abstract journal is also accessioned and announced as a "Microfiche Collection" under a separate and distinct ED number. Due to the large number of pages involved, hard copy reproductions of these collections are not provided.

The first AIM and ARM publications were issued in the Fall of 1967 under the sponsorship of the ERIC system, then within the U. S. Office of Education (USOE). In 1971, the funding for AIM and ARM changed from ERIC to USOE's Bureau of Adult, Vocational and Technical Education. Currently, AIM/ARM is funded by the USOE's Bureau of Occupational and Adult Education.

Career Tests and Resources

Career Guidance Services
Department of Education
San Diego County Schools Office
6041 Linda Vista Road
San Diego, California 92111

*EPIE Report: Special EPIE Career Education S*E*T** (Selection and Evaluation Tools). 1975. Vol. I, 124pp., Vol. II, 316pp.

Educational Products Information Exchange (EPIE)
463 West Street
New York, New York 10014

Handbook of Resources, Career Guidance, Counseling, Placement and Followthrough Program for Rural Schools.

Center for Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

Instructional Materials for Career Education. A Search and Assessment for the Office of Education. Washington, D.C.: Peat, Marwick, Mitchell and Company, February 1974. 186pp. ED 090 441.

The purpose of this project was to hasten the implementation of career education concepts by identifying from available bibliographies those instructional materials which have shown promise of instructional effectiveness. Of prime interest were previously developed materials judged by research as effective, and covering a range of grade levels, interest areas, professions, and occupations. After establishing a universe of available noncopyrighted and noncommercial materials, identified materials were screened for user needs and qualitative characteristics. Assessment was made on such factors as the adequacy, consistency, and versatility of the materials, and on their freedom from bias. A 96-page bibliography lists alphabetically by state approximately 750 units including all those assessed by the project and a majority of those screened. Each entry is classified by the criteria applied by the project.

An Instrument for the Qualitative Evaluation of Media Programs in California. Sacramento, California: Department of Education, Bureau of Publications, 721 Capitol Mall, 95814, 1972. 37pp. (65¢).

Koontz, Ronald G. *A Classification Scheme for Career Education Resource Materials.* Washington, D.C.: Office of Career Education (DHEW/OE), June 1975. 37pp. ED 110 829.

The introductory section of the paper expresses its purpose: To devise a classification scheme for career education resource material, which will be used to develop the USOE Office of Career Education Resource Library and will be disseminated to interested state departments of education and local school districts to assist them in classifying their own career education resource materials. The second section of the paper describes the classification of career education resource material, revised after critiquing by 50 randomly selected career education practitioners. The third section describes the classification scheme, defines the nine cataloging terms used, and lists the 40 key descriptors utilized in the filing system. The fourth section describes the use of the key descriptors and card catalog for the purpose of searching and retrieving needed material. Section five explains how the index card is designed for conversion to computer card, and the main advantages of a computer system of retrieval are discussed.

Magisos, Joel H. *A Model for Acquisition and Selection of Career Education Instructional Materials. Final Report.* Newton, Massachusetts: New England Resource Center for Occupational Education. Columbus: The Ohio State University Center for Vocational and Technical Education, July 1973. 41pp. ED 098 385.

The purposes of this project were to test the effect of an intensive acquisition effort in one region of the nation (Connecticut, Maine, New Hampshire, Rhode Island, and Vermont), and to develop selection criteria, indexing strategies, and abstract formats congruent with user needs. The staff of The Center for Vocational and Technical Education (CVTE) was to develop the initial scope statement on which to base the acquisition of materials for the project. The New England Resource Center for Occupational Education (NERCOE) was subcontracted

to develop a mailing list of potential sources of materials and to create acquisition announcements and request letters to 5,600 New England educators. Further, CVTE was to engage consultants to develop indexing strategies and abstract formats, and to establish a panel who would set up the criteria on which to base material selection for input into the ERIC system. The conclusions and recommendations are presented in detail through tabulated charts and in the various materials appended.

1973 Annual Index to Abstracts of Instructional Materials in Vocational and Technical Education and Abstracts of Research Materials in Vocational and Technical Education. Columbus: The Ohio State University, Center for Vocational and Technical Education, 1974. 503pp. Available from: AIM/ARM The Center for Vocational and Technical Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio, 43210 (Annual Calendar-Year Subscription $34.00, six issues plus index). ED 092 810.

The volume cumulates the indexes that appeared in the quarterly issues of "Abstracts in Instructional Materials in Vocational and Technical Education" (AIM) and "Abstracts of Research Materials in Vocational and Technical Education" (ARM), Volume 6, No. 1 through Volume 6, No. 4. The cumulation is intended to be a companion volume to the individual issues of AIM and ARM, which contain the complete resumes of documents. Three indexes are provided in the volume: subject, author, and conversion of document number.

Office of Career Education
U.S. Office of Education
7th and D Streets S.W.
Washington, D.C. 20202

Search and Assessment of Commercial Career Education Materials. Chicago, Illinois: Peat, Marwick, Mitchell and Company, 1972. ED 075 657.
(See Page 47).

A Systematic Approach to Evaluating Career Education Materials at the Local Level. Washington, D.C.: Peat, Marwick, Mitchell and Company, November 1974. 49pp. ED 109 381.

This document contains an assessment instrument to assist career education practitioners in identifying, classifying, and evaluating career education instructional materials to determine the usefulness of a particular unit of material in a specific local situation. It also contains suggestions of sources from which career education instructional materials or information may be obtained. The instrument treats six aspects of the material: identification, quality, special conditions for use, content bias, research data provided, and summary evaluation. The bulk of the document consists of the instrument itself and a detailed outline on its use, including definitions of terms and and explanation of some of the individual items of the instrument. Appended are a list of sources of career education materials and a list of more than 100 noncopyrighted career education instructional units, indexed by state, which were developed by local school districts and state departments of education and chosen for inclusion because they seemed to be well-developed and potentially useful for career education programs.

OVERVIEW

In this review of references to the use of print and nonprint media in career education, several factors emerged:

(1) If the resources accessed through the ERIC search, plus others known to the author of this paper, are representative of what is available, there are very few references that specifically address *use* of media. Teacher guides accompanying media are the principal sources of information about media use. Most of these propose a single structure use, e.g., use as a classroom unit; relating the materials to specific subjects; or use as a resource guide. In some cases use is implied, but not addressed specifically.

(2) Innovative uses were found more frequently in descriptions and/or instructions accompanying locally produced media. It appears that the classroom teacher is more likely than a commercial publisher to think of creative uses of self-developed or self-selected materials.

(3) Interactive media, e.g., programmed learning kits and computer information systems, are more apt to be commercially produced. Locally-produced materials usually are addressed to the teacher; their thrust is interaction between student and teacher rather than student interaction with media. The locally-developed materials are frequently activity-oriented, with directions or suggestions to the teacher for involving the students in games, role play, and discussion.

(4) Clearly defined student outcomes expected as a result of use of specific media frequently are missing.

(5) Apparently career education has permeated every aspect of the schools; media use identified in this survey includes the following settings: Classroom, small group, library, career center, counselor's office, assembly, and home. Both directed and independent access to media were found; both individual and group uses were illustrated. Media were used to enhance learning in all areas of career education: Self-awareness, interpersonal relations, life roles, awareness and exploration of the world of work, career planning and decision making, and job skill attainment.

(6) In most of the media there appears to be an awareness of the need to relate the materials to something real in the learner's life--either educational experiences he/she is having, or work roles he/she knows about. The focus of most media is on developing knowledge and competencies in the area of careers. A promising observation (not observed often enough to be called a trend) is that the focus of some materials appears to enhance motivation for general and continuing learning, by using career concepts as a linkage system, making school subjects relevant to the student.

(7) Analysis of publication dates of media shows a recent escalation in production of materials for staff development, and of general resource materials intended to increase staff members' competencies in delivering career education programs in the classroom. This probably reflects increasing awareness that career education and career counseling require some competencies not required in the general curriculum or in guidance

as it existed before the career education movement. Media for staff development in all relevant settings were identified: Teacher/counselor/administrator training institutions, workshops, local staff development workshops, seminars, conferences, and independent study. Media have been developed to be used in all phases of career education programs: Needs assessment, planning, goal setting, objectives development, strategy selection, activity development, curriculum writing, monitoring, measurement, evaluation, administration and supervision of programs, resource identification and allocation, and funding and budgeting. In other words, the information is there. However, finding the most appropriate media and making it work for you require some effort. This will be addressed in the next section.

(8) In many cases there is an absence of evidence that media are related to specific career development theories and/or models. In fact, the tendency for commercial publishers to produce media addressed to rather narrow program components makes it difficult for school personnel to use media to achieve an effective sequential career development program. Using available media, some aspects of the program would have heavy media support, while others would have none. Yet school staffs tend to reject large scale sequential programs that do not involve them in the planning and development. This dilemma needs to be addressed. We need a developmental career education model to serve as a template for identifying the relationships between and among existing validated media. And we must put our efforts into completing the template by producing validated media in those areas where none exist.

ADDENDUM--A NEW REPORT

A final report of a project funded by the Office of Career Education, released at the same time this paper was being completed, presents some information related to our topic. The report, *Career Education in the Public Schools 1973-75: A National Survey*, was prepared by Project Director Donald McLaughlin at the American Institutes for Research (AIR), Palo Alto, California. It contains one full section on the evaluation of media for career education. To update previous surveys, AIR catalogued 2900 materials. Then, 670 commercial and 90 noncommercial materials were evaluated using the Peat, Marwick, and Mitchell form.

Of the published career materials from outside sources, about 63% of the elementary materials, 90% of the junior high materials, and 95% of the high school materials were designed to help students learn about and prepare for work, rather than to help with affective areas such as self-awareness and decision making.

The survey of local school district career education activities focused on a representative sample of 900 of the nation's 16,338 local districts to obtain a representative picture of the extent to which career education was reaching all students. The sampling techniques make it possible to generalize to percentages of students (not districts) across the country who are being exposed to career education.

Some of the findings of the study follow:

School staff members tend to prefer locally developed materials for their classrooms. Local development of materials is seen also as an exercise in staff development, which is widely agreed to be essential for firm establishment of the career education movement.

Students are the primary intended users of commercial materials. Teachers are the primary intended users of noncommercial materials.

Few materials are targeted for use by parents or community members. Few commercial materials are available for use by program planners (administrators, guidance personnel, and educational personnel).

Noncommercial materials tend to be designed to be adopted, interpreted, supplemented, and disseminated by the teacher for use in his/her own classroom, whereas commercial materials require little preparation and interpretation by the teacher and are designed for immediate and usually unassisted use by students. Most common among noncommercial materials are curriculum guides; instructional units are common also, and are similar in content to the curriculum guides, although less detailed.

A large percentage of film and audiovisual materials

from commercial publishers, constituting over half of all commercial materials, are noninstructional and supplementary to the standard curriculum. The majority of noncommercial materials are designed to infuse career education into the curriculum.

Few materials indicate the goals to which they are directed. Distribution of commercial materials within career goals indicates that these materials are more focused on providing information about the world of work than on providing skills for use in career preparation and decision making.

Few commercial materials designate the specific disciplines to which they are related or in which they should be used. Noncommercial materials for all grade levels are designed primarily for use in the areas of English, mathematics, natural science, and social studies. Frequently they are developed by teachers for use in their own classrooms. Some 89% of commercial materials contain no evidence of scientific evaluation; only 1% contain reference to published reports of evaluation.

Only 26% of commercial materials contain clearly and specifically stated objectives. Objectives are identified in an additional 32%, but they are not clear and specific. A total of 42% contain no objectives at all. Of the materials that do contain objectives, the content is adequate to meet all objectives in only half of the materials.

Only 14% utilize teaching strategies that consistently reflect awareness of sound learning principles.

About half of the commercial instructional materials contain some provision for learner performance evaluation, but only 28% of these clearly set forth procedures for such evaluation. Only rarely are procedures for pretesting or remediation provided.

More than 1/3 provide a broad range of optional instructional strategies. Most suggest other media as possible instructional aids.

Only 2% provide specifically for needs of special users and only 10% contain specific provision for infusing the materials within the educational program, although 30% include such provision in general terms.

In general, commercial materials score high on usability by targeted groups without prior extensive knowledge or training. Over half reference additional resources and provide all necessary background information.

Some 41% are free of race bias; 25% are free of sex bias. Three areas needing attention by producers of commercial materials are: Bias; specific objectives and evaluation; and needs of special groups.

About half of the noncommercial materials are non-instructional. Of the instructional materials, 68% have clear and specific objectives; 84% of these have procedures for evaluating the attainment of the objectives. Most include individualized instructional methods and provide for using the material in a more comprehensive education program. Three-fourths reference additional resources. Few are geared to use of students with special needs.

The following observations were made by the AIR investigator as a result of cataloging the materials:

Commercial materials usually are designed for secondary level student use, for teachers to use as supplements to the regular curriculum. Materials are usually in the form of texts, films, cassettes, and filmstrips.

Noncommercial materials are usually designed for teacher use with students and thus place equal emphasis on all grade levels; most are intended for use as part of the regular curriculum; and they usually are curriculum guides.

The above findings are shared for two reasons: First, they make a promising start on the template to identify areas where materials are needed to contribute to a sequential career development program; and second, they support some of the findings of the limited survey attempted for this paper. Although not all of the AIR findings address *use* of media, all have an impact on the potential use of these materials.

It is interesting to note that a larger percentage of noncommercial than of commercial materials contain clearly stated specific objectives. Apparently educators are more attuned than publishers to the need for relating content and strategies to desired outcomes, probably because research and development activities involving media have helped teachers clarify education objectives and design media that produce specific learner outcomes.

There appears to be increased interest in designing instructional systems to facilitate the attainment of a series of specified behaviors, but at the same time teachers are demanding materials with which they can develop their own programs. The best teachers now are getting their students involved in processes, not just in assimilation of facts. New teachers were introduced to new media when they were in the classroom as students and now they are demanding it. They are using videotape, role playing exercises, games, simulations and other dynamic techniques. Some of these depend on predeveloped materials; others are developed spontaneously in the classroom.

Producers of materials should consider the market before the product design is set; and this seems more apt to happen in the production of noncommercial than of commercial materials. As publishers become increasingly aware of their distance from the ultimate user--the student--they are employing more and more educators as conceptualizers, writers, consultants,

and pilot and field testers.

A perusal of the references accessed for this survey indicates that media are plentiful, widely used, and popular for career education. Commercial materials frequently are used with noncommercial materials. We do not have much evidence of the degree to which the use of media is making a difference in career education. We find that some media are integral and some peripheral to the regular curriculum, and we need to determine whether this makes a difference in learner outcomes. We have indicated that media use can be improved by careful analysis and selection of available media, and we encourage accelerated efforts to validate existing media and to make validation studies an integral part of development of future career education media.

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